

THE  
GEOGRAPHICAL MAGAZINE

VOLUME XIV

*November 1941—April 1942*

LONDON

40-42 WILLIAM IV STREET, STRAND

W.C.2

THE GEOGRAPHICAL MAGAZINE is printed in Great Britain by R. & R. Clark, Ltd., Edinburgh,  
and published for the proprietors, The Geographical Magazine Ltd., by Chatto and Windus,  
40-42 William IV Street, London, W.C.2.

Price one shilling and threepence per copy. Annual subscription, 18/- post free. Canada, 16/6

Registered for transmission by Canadian Magazine Post. Entered as Second Class matter November 13,  
1935, at the Post Office at New York, N.Y., under the Act of March 3, 1879, Section 523, P.L. & R.



# THE GEOGRAPHICAL MAGAZINE

*Acting Editor*

*Ivy Davison*

The founders of THE GEOGRAPHICAL MAGAZINE have undertaken the legal obligation to assign one half of all profits to a fund for the advancement of exploration and research, and the promotion of geographical knowledge. This fund will be administered by a Board of Trustees, whose Chairman will be the President of the Royal Geographical Society

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# Britain and the Persian Gulf

by KENNETH WILLIAMS

*Since the campaigns which have established allied influence in Iraq, Syria, and Iran, and particularly since Hitler's attack on Russia, the Persian Gulf has been of supreme importance, not merely as a link between the supply base of India and our forces in the Middle East, but also as a channel through which British and American aid can reach the Russian armies in their titanic struggle*

STRICTLY speaking, the Persian Gulf is almost an inland sea, covering an area of 97,000 square miles. But generally it is held to include the Gulf of Oman, from which it is separated by the Strait of Hormuz. In length, it is less than the Red Sea, a parallel prolongation of the Indian Ocean, the distance from Oman to the head of the Gulf being about 500 miles. In breadth it varies from 180 miles to 29 miles.

Climatically it has the worst reputation in the world. A sun temperature of 189 deg. F. is not uncommon, and the only tolerable months to outsiders are from November to March. An Arab writer, Abdur Razzaq, describing Muscat, said: "The heat of the sun was so intense that it burned the ruby in the mine

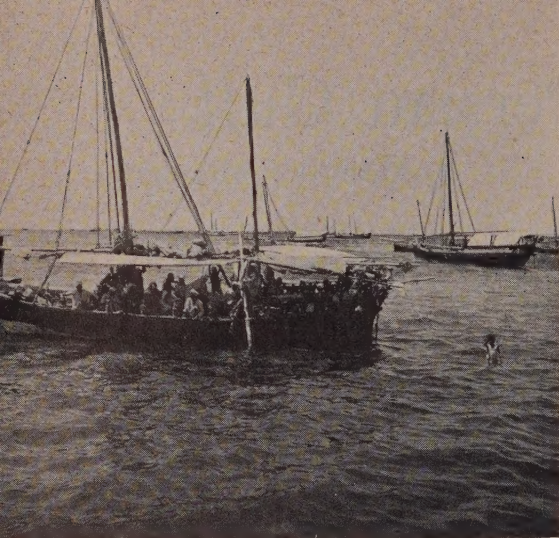
and the marrow in the bones: the sword in its scabbard melted like wax. . . . In the plains the chase became a matter of perfect ease, for the desert was filled with roasted gazelles." And John Struys, a Dutchman, wrote in the 17th century: "It was so incredible hot and scorching that strangers are as if they were in boiling cauldrons or sweating tubs".

The western side of the Gulf is wholly Arab, the eastern side wholly Persian. (At certain times the Persians held sway on the western side also, and from time to time have laid claim to such places as Bahrein and even Muscat. But there is no sign that the Arabs are moved by these claims.) Though Persia

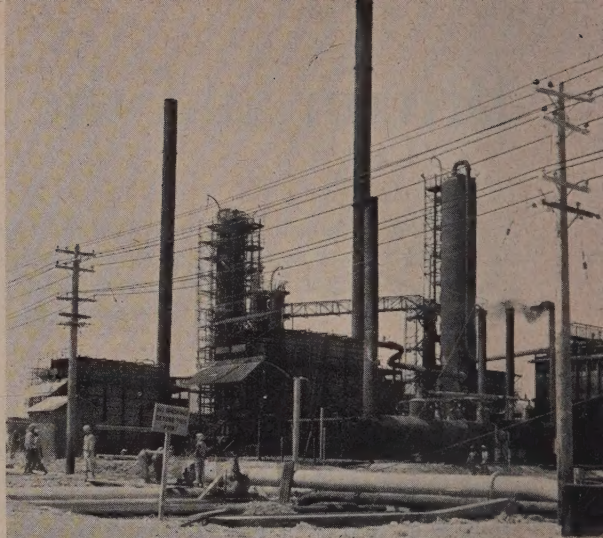


Stanford, London





Paul Popper



Paul Popper

*The Persian Gulf was for many years famous for its pearl-fisheries. (Left) A pearling dhow off the shores of Bahrein. Oil is now the richest treasure and Bahrein has an immense oil refinery (right)*

has changed her name to Iran, the Gulf remains the 'Persian' Gulf.

#### THE ARAB COAST

Take first the Arab side, composed of the principality of Kuwait, the Hasa province of Saudi Arabia, the principality of Bahrein, the sheikhdoms of Al Qatar and of the Trucial, or Pirate, Coast (which include the sheikhdoms of Ras al Khaimah, Umm al Qaiwain, Ajman, Sharjah, Dibai and Abu Dhabi), and the Sultanate of Muscat and Oman. All these places are independent, but, with the exception of the Hasa, are under the protection of, or very closely bound to, the British Empire. In fact there is a minimum of interference with their politics, for it is only essential interests of civilization and essential Imperial interests that Great Britain is concerned to maintain in the Gulf.

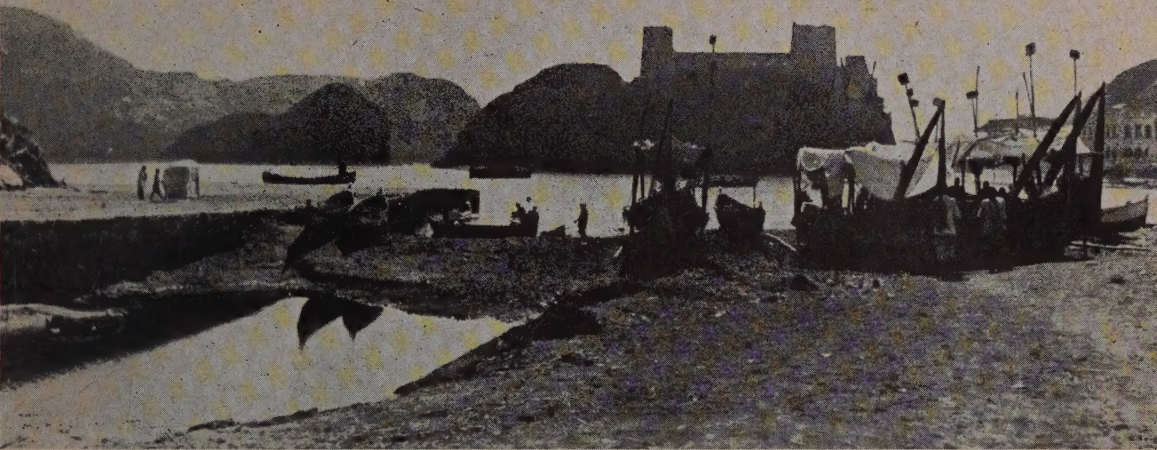
Kuwait, famous for its shipbuilding—it has a good harbour—and its pearls, today thinks largely in terms of oil. Not that oil is actually exploited there, but investigations have been made and it is probable that the result will be successful. Its ruler, Sheikh Ahmad al Kabir, is on good terms with the British, and though differences in the fairly

recent past have arisen between Kuwait and her two neighbours, Iraq and Saudi Arabia, there is little fear that she will be unable to preserve her independence.

Bahrein, a group of islands known to many travellers through the Gulf for their humidity, has progressed materially in the last few years. Formerly the title Bahrein, meaning 'two seas', was given to the whole projection of Qatar between the salt water of the Gulf and the fresh water of the Tigris and Euphrates, and, incidentally, of subterranean rivers running across Saudi Arabia.

At one time Bahrein produced peerless pearls. But since the manufacture of artificial pearls, the pearl fishing has declined. Fortunately for the prosperity of the islands, abundant oil has been found there. It is being exploited by a subsidiary of the Standard Oil Company of California, which also holds a concession on the mainland of Saudi Arabia. Great success has attended this enterprise, and the oil is actually refined on Bahrein. Indeed the islands, already important, are likely to become even more so, for they afford excellent harbours for vessels from our East Indies Squadron, and admirable facilities for both sea- and landplanes.





Barnaby's

*Fruit is another commodity freely traded in the Gulf. Into the very attractive harbour of Muscat, come ships laden with fruit from the northern coasts to refresh the townspeople who have no gardens*

In the Hasa province, which is under the suzerainty of Ibn Saud, oil was discovered about a year before the outbreak of war in considerable quantities. At present the oil produced is being refined in Bahrein, as the Hasa has no large port capable of handling much shipping. Hopes are high, however, that the Hasa field may prove one of the richest in the east, and its coastline is bound to develop.

The Qatar peninsula, consisting for the most part of low, barren hills, produces nothing which outsiders may want, though its sheikh has granted an oil concession which may prove to be valuable. A feature of this desolate, flat principality is that its centre is only 250 feet above sea-level.

In lawlessness the Trucial or Pirate Coast of the Gulf probably surpasses all other sections; it has been estimated that 60 per cent of the chiefs in this region owe their position to the murdering of their brothers! For years the Jawasmi pirates who issued from this area were the terror of the Gulf. But the Royal Navy stopped them. In 1819 the Navy captured Ras al Khaimah, their headquarters, burned their boats and razed their fort to the ground. In the following

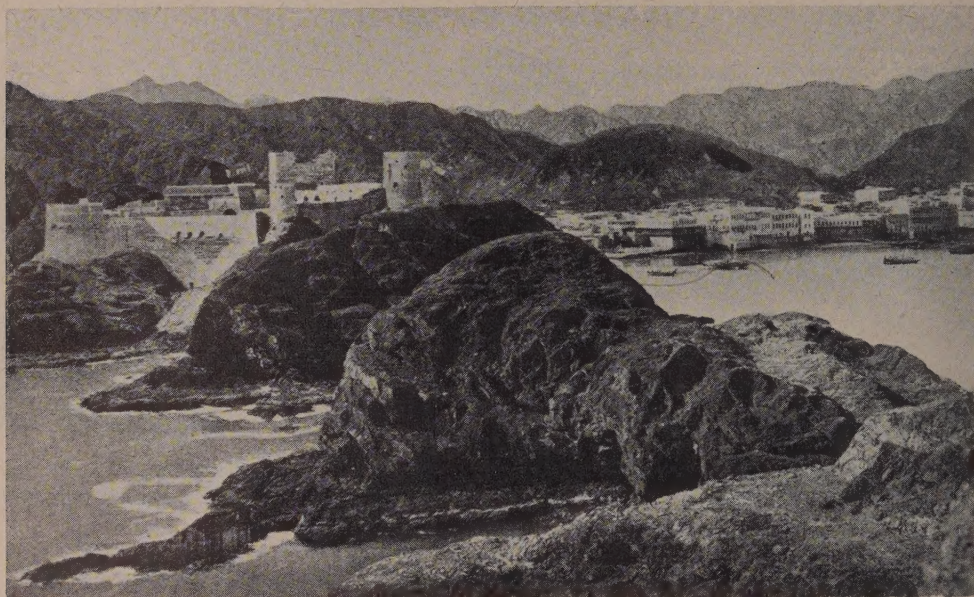
years negotiations were opened with them, and, by a series of treaties which, among other things, bound them to a truce with one another, peace was secured: the Pirate Coast became Trucial Oman—the name it has borne ever since.

The State of Muscat and Oman has more foreign associations than other regions of the Gulf. It contains traces of Asiatic, African and European influences. At the entrance to its harbour, one of the most attractive in the world, stand the twin Portuguese forts of Jalali and Mirani. African blood is perceptible in its ruling family: at one time, it will be recalled, the ruler of Muscat and Oman also was lord of Zanzibar. Politically, Muscat's relations are not confined to the British Empire: the United States and France also have treaties with her, and a few years before the war her Sultan, H.H. Saiyid Said, made a tour of the U.S.A. before coming on to Great Britain.

#### THE PERSIAN SIDE

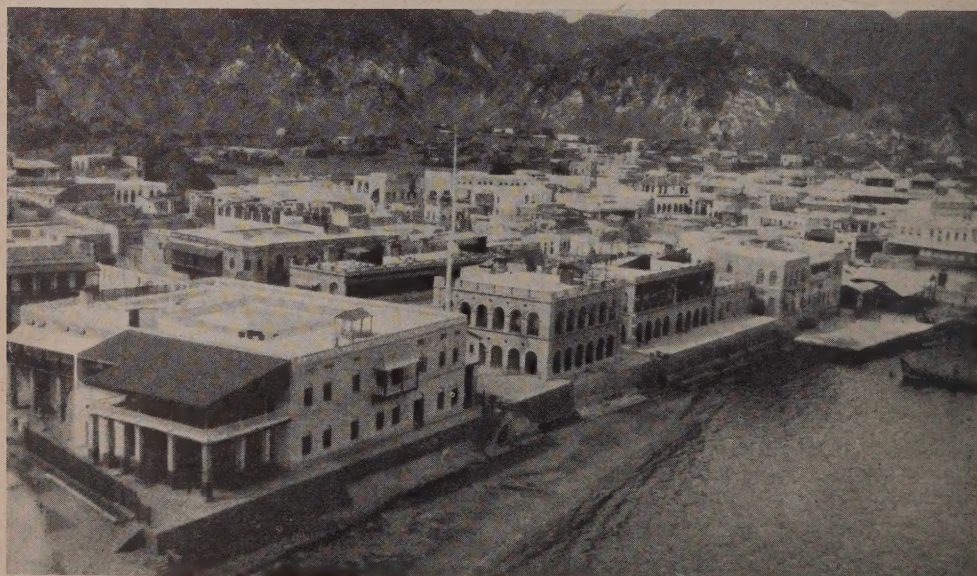
The Persian side of the Gulf, from the political and also from the geographical aspect, is less interesting. There, the Government of Iran steadily increased its influence,





*Birmingham Library*

(Above) *Muscat, seen from the cliffs sheltering the port and town from the Gulf of Oman. The Sultan of Muscat and Oman is a firm friend of Britain and his castle is a prominent feature at the narrow entrance to the Gulf.* (Below) *The port of Muscat*



*Lady Fowle*





*Lady Fowle*

(Above) The village of Gwadar on the Makran coast—one of the most inhospitable in the world.  
(Below) On the shores of the Persian Gulf at Matrah to the west of Muscat. Half-starved dogs scavenging fish



*Barnaby's*





Barnaby's

*Once a familiar sight in the towns of Iran: a schoolboy in the old national dress*



E.N.A.

*Basra is today the focal point of traffic passing up the Persian Gulf for Russia. It is a large bustling town, so hot that its inhabitants say "Only a sheet of paper lies between us and Hell". Modern buildings and Arab palaces jostle teeming native quarters. As in Venice, the creeks penetrate far into the town*

in the years before the present war, and controlled a few places, such as Henjam and Basidu, formerly held by the British.

Bushire, the terminus of the shortest road from the coast to Shiraz and the interior of Iran, has for long been the headquarters of British political influence in the Gulf. From the sea it looks forbidding; it is almost an island, separated from the mainland by nine miles of mud flats. But Europeans have lived well there.

Bandar Abbas for a time was a port of capital importance. But its anchorage is insufficient for modern vessels and it has gone downhill. Jask, formerly on the air route to India, has relapsed into comparative insignificance, though it still can boast of being the place where the ocean cable and the land lines from India join. It was at Jask that traders of the East India Company first landed their goods to start commerce with Persia. And from Jask land telegraph lines go along the Makran coast to Karachi, and a cable to Chahbar.

This Makran coast is one of the most inhospitable in the world.

#### LINKING WEST AND EAST

To understand the history of the British connection with the Gulf, the importance of which has not diminished but is increasing, one must think first of India. The tale began in the 16th century, when we were wresting mastery of the Eastern seas from the Portuguese. In succeeding centuries other rivals—Dutch, French, Russian and German—appeared; and, naturally, there was at various times considerable opposition from peoples whose homes lay on or near the Gulf—Persians, Arabs, Turks. There are indeed few areas of comparable size which have seen bloodier deeds or harboured more overweening ambitions than the Gulf.

By the 18th century the land route across Western Asia was being extensively used for British trade with the East. It ran to Bombay via Syria and Mesopotamia, that is along the Euphrates Valley and the Persian Gulf.





*Barnaby's*

*Among the Iranian people are many tribes who wander from high plateau to sheltered valley. A nomad boy teaching his sweetheart to knit. She wears the key of her jewel case, containing shining silver hair clasps, round her neck*

Before the middle of the 19th century elaborate plans had been made for surveying, and even for building a railway across the route to the Persian Gulf. This route to India came to be known as the 'Desert Mail' or the 'short cut'. It was in fact much shorter than the route round the Cape, and it was thought to be shorter than that through Egypt and the Red Sea.

With British trade to the East fast increasing, it became necessary to safeguard the route to the Persian Gulf. In the sixties of last century cables were laid through it, and the Indian telegraph was connected with the telegraphic network of Europe. The establishment of this Indo-European line, as it was called, was a Herculean task, and its history is a romance in itself.

#### COMMERCIAL RIVALRIES

Up to the 19th century Britain's connection with the Gulf was, speaking roughly, com-

mercial. Afterwards it assumed a more strategic character. The expansion of Russia in Asia forced Britain to think of all possible ways into India, and not least of the Persian Gulf. Disraeli, for example, said in 1873: "The time may not be far distant when we may hear of the Russian power in the Persian Gulf, and what effect that may have upon the dominions of England, and upon those possessions on the productions of which we every year more and more depend, are questions upon which it will be well on proper occasions to meditate". In subsequent years, right up to the 1907 Anglo-Russian Agreement over Persia, those 'proper occasions' were numerous.

Of the international rivalries in the Gulf at the end of the 19th century, in which both France and Germany were involved, there is no need to write here. The story of how





[Above] The tamarisk-covered plain between the mountains of Muscat and Oman and the Gulf of Oman. [Below] Inland, on the opposite side of the Gulf, lies Fanuch. The beehive-shaped houses are uncommon and only occur in a few of the more important villages in this region

N. L. Falcon



France intrigued with local chieftains in the Gulf to outwit our plans for stopping gun-running is well known, as is the tale of Germany's attempts to extract from the ruler of Kuwait, at the head of the Gulf, a site for the terminus of her grandiose Berlin-Baghdad railway. These schemes came to nothing, and by the 20th century the Persian Gulf was freely talked of as a 'British lake'. In 1903 Lord Lansdowne gave his historic warning: "We should regard the establishment of a naval base or of a fortified fort on the Persian Gulf by any other Power as a very grave menace to British interests, and we should certainly resist it with all the means at our disposal."

#### THE FINDING OF OIL

Up to the 20th century, then, British interests in the Gulf had been commercial in the sense that the Gulf was on the route from the deserts of Syria and Mesopotamia to the Eastern markets, and strategic in the sense that control of its waters was essential to the defence of India.

But in the first two decades of this century another, and important, interest was added: the discovery and exploitation of oil in south-west Persia. This was the work of the Anglo-Iranian Oil Company, in which the British Government, thanks to the foresight of the present Prime Minister (who was First Lord of the Admiralty in 1914), has shares. When the last war broke out an expeditionary force was sent from India, landing at Basra in November 1914. Its purpose was not only to prevent the Ottoman Empire from attempting to rouse all the Moslems in Western Asia against the British Empire, but also to safeguard the oilfields of south-west Persia. That expedition embraced, in time, larger objectives: but all I need say here is that, by 1918, the British position in the Gulf was undisputed.

#### OPENING AIR ROUTES

The Royal Navy, through long and arduous years, had done its work in and for the Persian Gulf, and the Army, in four years, had helped to consolidate the position. Next came the development of air communications through the Gulf. Imperial Airways resolved

in 1927 to run a service from Cairo to Karachi, and the route chosen, between Basra and India, was by the eastern side of the Persian Gulf. For some four years civil aircraft plied through Bushire, Lingeh, Bandar Abbas, Chahbar and Pasni. But the Persian Government found this route unprofitable. They wanted Imperial Airways to tap the inner cities of Persia. The proposal was considered, both from the point of view of practical flying and commerce, and rejected.

Meanwhile the Royal Air Force, through Squadron 203 based on Basra, had been exploring the possibilities of a civil air route to India by way of the western, that is, the Arab, side of the Gulf. It had been said that "the Persian Gulf stands to British air power in almost the exact relation of the Suez Canal to the Royal Navy, namely, as an essential link in our air communications to the East, particularly for the passage of air forces in time of emergency". So just as the R.A.F., in the early years after the war of 1914-18 had blazed a route across the desert between Amman and Baghdad, they now found a safe way down the Arab side of the Gulf.

British political authorities in the Gulf negotiated treaties with Arab chiefs, first with Kuwait, then with Bahrein (now the key position on the Gulf route and the most important British naval base in the Gulf), with the sheikhs of Trucial Oman, and finally with the Sultan of Muscat and Oman.

From 1932 onwards the British civil air route ran, in the Gulf, via Bahrein, Sharjah and Gwadar. The last-named is a dependency on the eastern side of the Gulf, of Muscat and Oman.

#### A CHANNEL TO RUSSIA

And so we come to the present war. Few observers thought much about the Persian Gulf, except when Italian planes bombed Bahrein and the Hasa, until the rebellion was raised in Iraq by Rashid Ali. This rising touched Britain at a most sensitive point. The Government of India promptly despatched troops to Basra, and the success attending their arms is still fresh in our memory.

Still more recently, the Gulf came into the news again owing to the steps which had to



## BRITAIN AND THE PERSIAN GULF

be taken by Britain and Russia in Iran. At once it became evident how much more than a purely local, or even than a purely British, interest the Gulf possesses. For, by means of it help can be given to the Russians in their fight against the Nazi invasion. The improvements made to the port of Basra in 1914-18 and in subsequent years can now be appreciated.

It is strange indeed that the control of

waters which was assumed for commercial reasons and continued for strategic ones should now be prized largely on account of the assistance it may give to the descendants of those very people, the Russians, against whom the British of a former generation were concerned to consolidate their position in Asia. Britain may well feel that she has done well in the Gulf, which she has freed of nearly all evils except sharks!



*The Countess of Carlisle*

*The Persian Gulf has always produced distinguished shipwrights, the most expert of whom are to be found at Kuwait to whose shipyards these large dhows have come for repairs*

# English Earth and English Buildings

## II. Chalk

by H. J. MASSINGHAM

*Last month, in the first of his articles describing the causes and fluctuations of our regional architecture, Mr Massingham took the Oolite Limestone belt that runs from Dorset to Yorkshire. His second subject is the neighbouring belt of chalk that gives us our rolling downland, and the intermediate beds of sand, gravel and clay that furnish us with some of our richest and most characteristic building materials. As before, he writes out of a long association with the regions he describes*

REGIONALISM, which means that a certain type of landscape, soil and bedrock conditions the buildings constructed out of and upon it, is as faithfully illustrated among the downs of the chalk region as on the wolds in the limestone area between Dorset and Yorkshire described in my first article. With this difference. There are many limestones occurring with gaps between the primary and sedimentary series of rock-strata, but all are solid stone and so the variations between them are of degree rather than of kind. The mason varied his forms from region to region; his substance much less. But the chalk is a later rock and much softer than limestone. It has therefore been far more subject to denudation, invasion and adulteration, and the length and depth of these compromising agents may be assessed from the fact that two-thirds of England were once chalk, risen in gleaming white from the primordial ocean.

### CHALK CHARACTERISTICS

It did not retain its elemental purity for long. If the downland areas are surveyed upon a geological map, they may be compared with a cluster of bladderwrack seaweed, from the central core of which radiate irregular fronds or streamers of varying lengths. The chalk core rests in mass upon the Wiltshire plateau and the Hampshire Highlands. One shortish streamer is thrown out into the south-west to form the midrib of Dorset and culminates by Beaminster in an attenuated hook bending south and east along the coast-line

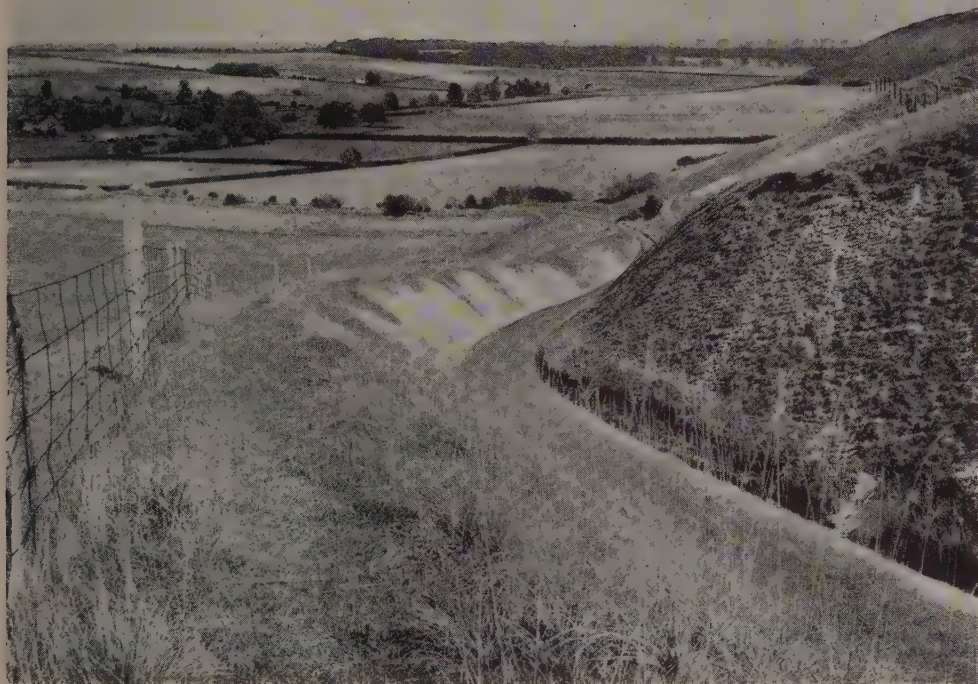
as far as Ballard Point on Dorset's eastern seaboard.

The next streamer, more than ten times the length of the first, flows north-eastward by way of the Berkshire Downs, the Chilterns and the East Anglian Heights as far as the gap of the Wash, and ends at Flamborough Head as the Yorkshire Wolds.

The third and fourth travel east and south-east for about a third of the distance and along a narrower line to Dover as the North Downs, and to Beachy Head as the South Downs.

This is the range of Cretaceous England, but in between these elongated spurs and often on the surface of the Downs themselves lie Tertiary beds of sands, gravels and clays which support a different, denser and much more luxuriant vegetation. The pure chalk of the Upper Cretaceous that makes what Gilbert White called "a chain of majestic mountains" is sparing of raiment. Only the yew and the juniper are indigenous to it and even the beech is a late-comer. It excels in continuity of sweep, in serenity of aspect, in curvilinear sculpture and in the repetition of like forms—spur, buttress, col, fold, fluted hollow, bluff, bay. The differentiation is sharp between this giant-like, primitive and austere downland, still mostly solitary since it was abandoned by the Celtic farmers of the ramparted hill towns, and the country of the Tertiary deposits that have overlain it in many areas of the massif and submerged it in the combes and valleys between the contours.





Val Doone

*Road up White Sheet Hill on the Wiltshire Downs: one of the terminal nodes to the south-western spur of Salisbury 'Plain' that overhangs Cranborne Chase, the wild region linking the Wiltshire Downs with the Dorset range which ends at Beaminster, where the liassic heights of Devon begin*

Yet this authentic downland is the matrix for no fewer than ten building stones, all distinct from one another. These are clunch, the harder blocks of chalk found below the surface; sarsen, a conglomerate sandstone scattered over the surface of the Marlborough Downs; Totternhoe stone occurring in the Dunstable region of the Hertfordshire-Bedfordshire border of the Chilterns; a local sandstone of the Central Chilterns; the pudding-stone of parts of Wiltshire, Berkshire and Hampshire; Reigate stone; Kentish rag; carstone, a coarse-grained iron sandstone of north-western Breckland; the Chilmark stone of the Wylie Valley and the original ubiquitous flint, blue, black and white, impermeable nodules of which were formed and embedded in the siliceous ooze of the shallow Cretaceous seas.

But the Tertiary pelt which geologically recent time has flung over the chalk bones since they emerged from ocean displayed an even wider variety of materials for man's constructional genius.

The boulder clays of a glacial moraine smeared over the chalk of East Anglia gave him brick, burnt tiles and plaster. The heavy Wealden clays between the North and South Downs presented him with superabundance of timber from the great forest of the Andreds-weald, once continuous with Harewood, Chute and Savernake Forests and the marshy jungles of the Kennet Valley, and reaching trunk to trunk closer than the Amazon forests from Pevensy to Marlborough.

The mixed Tertiary deposits gave him mortar for his courses, while the fat cornlands of their richer soils yielded him the immemorial



Stanford, London

The map shows the disposition of the chalk in England, broken only by the inflow of the Wash. The habit of the chalk downs to throw out spurs from a central core occurs in detail over the whole area as well as in the large as represented on the map. Sands, gravels and clays are later deposits





*J. Dixon-Scott*

*A characteristically regional flint-tower of the Romanesque period at Little Snoring, Norfolk. Windows of nave and chancel are Early English, Decorated and Perpendicular, so the church represents workmanship of four centuries—in harmony partly because subdued to the Norfolk style*

covering of thatch. It is thus clear that, if limestone awoke and fostered the creative spirit of carving, designing and composing in the mass, the chalk offered a diversity of treasure in sheer substance.

#### FLINT

Flint possessed an easy pre-eminence as a building stone throughout all the chalk-lands. It is an intractable stone, at once sharp and brittle and in its chilly blue-blacks, whites and greys, in its stubbornness against weathering, it is by no means very amenable to the chisel. Flint churches always look rather gaunt and rude. Yet the shaping of blue-blooded flint not only precedes history but even *Homo sapiens*, and it has a longer continuity for human use than any other

stone in the world. From the uncreate to the flower of craftsmanship the chain is unbroken. At Grimes Graves in Breckland I have stepped across millennia in a few yards (from 500 B.C. to 10,000 B.C.) among the shafts and galleries of the flint-mines.

But though flint was the corner-stone of civilization, the round flint towers of so many of the East Anglian churches confess a major difficulty in cornering, and this problem was solved in other buildings by brick- or stone-quoins. Yet building in flint began far earlier than in the Middle Ages and the medieval builders wrenched the unworked slabs of flint in the Roman walls of Caistor St Edmund, near Norwich, to build the Perpendicular tower of the church.

If we confine ourselves for the moment to



Val Doone

*Flushwork is almost confined to East Anglia but there are rare examples elsewhere—this one (above) is at Meonstoke in the Meon Valley. It occurs only in flint and only in the chalk regions. (Opposite) Large nuggets of flint in the Roman Wall at Pevensey*

East Anglia alone, flint is seen to have played a richly formative part in the development of the local genius. In the porches and towers even of the humbler churches the regional mannerism of 'flushwork' was extensively practised. This is a geometrical patterning of faced and squared flints with freestone panels and, with the flints throwing out blue and purple gleams, is a kind of inset jewel-work or mosaic. The best quality of flint being found in the Brecks, as the Neolithic miners discovered four thousand years ago, the medieval flushwork of Norwich reaches the peak in craftsmanly finish and complexity. In the parish church of St Andrew, this spiky razor-edged sea-rock is even cajoled into foliation.

But, as I say, the more secretive byway

churches reveal the core of regionalism more intimately than the more ambitious buildings. Take the little churches of Ranworth and Potter Heigham in Broadland. They are waterside churches and their Broad are almost as wild today as when the archaic marsh-men hunted the bittern along the snaky water-tunnels of a myriad reed-blades. Uncouth nuggets of flint form the binding to the treasure of Ranworth within—the diaper-work on the robes of the saints and apostles of the painted rood-screen, the carved woodwork, the cantor's desk, the sumptuously decorated Renaissance pulpit. The apse is reed-thatched in the distinctive half-lozenge technique of the Norfolk thatcher and doubtless from the reeds of the Broad on whose shore the place of worship stands.





At Potter Heigham Church, the quatrefoil brick-work owes its material to the pottery of blue clay at its doors; the interior is stuffed with carved woodmanship from marshland timber; the nave and chancel are both reed-thatched; the tower is of rounded black flint nodules and in a niche of the porch is carved in white stone the primitive image of a wild man with a club.

In these examples how perfectly the wild is translated into the domestic, the profane into the sacred, the incult into decorative masterpieces and primeval substance into art, all within the bounds of the region and in geographical and aesthetic contact with beginnings! Such local piety goes deeper than the conventional term; nature in the raw is transfigured. But outside East Anglia flush-work is rare, and there is generally a good reason for it when it occurs. At Ewelme Church in the Oxfordshire Chilterns, for instance, the walls are built in a chequer-work pattern of flint and freestone. Why this 'sport'? Because the masons who built Ewelme in the 15th century came from Wingfield Church in Suffolk, both being estates of their employer, the Duke of Suffolk.

We speak of a 'heart of flint' when we mean inflexibility to human appeal. But human skill and craft, regionally inspired, has so fashioned this rude medium that it is almost as workable as wax in human hands. Sometimes, colour rather than shape was the end in view, as expressed in the black flint and white stone of Cerne Abbas within the Dorset Downs and the blue or black flints combined with the bleached sarsen stones of the string of villages tucked under the high scarp of the Berkshire Downs. At Aldbourne, the open village which is the eastern gateway to the Marlborough Downs, dressed flint was used in conjunction with the Chinese-white surface of clunch. The beautiful Meon Valley, ramparted by the noble promontories of Old Winchester Hill and Butser, the warm fertile valley settled by the Jutes where Izaak Walton fished, shows walls rising from the greenery built of flint rubble.

Flint cobbles were in abundant use along the East Anglian coast, whitewashed in some areas, tarred in others. Along the Sussex littoral, especially in the neighbourhood of Brighton, the older houses are panelled

with sea-worn beach-pebbles geometrically arranged in a variety of colours and sizes. The Roman walls of Pevensey, Reculver and Portchester in the south and south-east had a preference for big club-like ovals of flint set in level courses in their imperishable mortar.

In the Valley of the Bourne, one of the five rivers that meet at Salisbury and form the hand-like valley system of the 'Plain', flint and brick were used alternatively, as they were in the belfries of many Kentish churches. In the south-east, East Anglia and the Dorset-Wiltshire borderland, wall-flint was, even in the cottages, built into chequer and diaper patterns and the joints between the courses were sometimes 'garretted', the flint chippings and splinters being embedded in the mortar both for binding it and giving a decorative effect.

At Blakeney, on the north-east coast of Norfolk, kidney-flint walls beneath pantile roofs are an individual eloquence of *genius loci*, while at Great Durnford in Wiltshire, where even the farmyard walls are thatched, pudding-stone, flint and brick make a pleasing conglomerate under their soft, close-piled, umber thatches. Flint gave fire, tools and weapons of the chase to the first men; an elaborate domestic industry to our first farmers; walls of defence for the Roman invader; designs of art, buildings of worship and sturdy homesteads to later ages—all within the confines of the chalk downland.

#### REGIONAL STYLES

Nature pouring out such a wealth of material from her horn of plenty, it is not surprising that, during the ages when the arts and crafts were "in widest commonalty spread", the natives of the chalk-lands evolved an architecture so varied and heterogeneous as to elude definition. It is impossible to cope with it except by regional subdivision.

Take the south and south-east, for instance, the area covered by the North and South Downs with the Wealden flats and greensand heights between them. The most characteristic farmhouses, cottages and small country houses of Sussex are of brick and tile, more often than not tile-hung from the upper storey. Tile-hanging also occurs in the more countrified parts of Surrey, though the





Val Doone

*Clare on the Suffolk Stour was a village of medieval industrialism and with others in the same region is rich in examples of high craftsmanship both in building and decoration. The pricked and combed pattern of 'pargetting' on plaster were of great variety and beauty, often on the humblest cottages*

flanged 'fish-tail' shape is commoner in the south. In the western and more wooded area of Sussex, thatch is the commoner roofing, often combined with timber-framing, infilled with brick noggin and, in the older houses, wattle-and-daub. But the eastern district, influenced by the more elaborate craftsmanship of the Kentish tradition, exhibits the timber-boarded upper storey, either whitewashed or tarred, not unlike what is called the 'Colonial' style, except that it is simpler and more truly vernacular.

As we move east by north into Kent among the numerous 'dens'—Frittenden, Biddenden, Tenterden, Smarden, Marden, all between Maidstone and Romney Marsh—we observe more and more variety of plan, structure and outline, to which the texture of silvered old

oak and rose-coloured tiling richly contributes. Even more striking is the intricate range of the timbering. Overhangs, carved corner-posts, barge-boards, oriels, bays, finials and the 'dragon' beam appear in profusion.

At Groombridge, tile-hanging, weatherboarding and the diapered brick-work derived from a Tudor origin occur together in the same houses and the effect is almost too lavish for that repose of composition and homeliness of appeal which is especially the mark of Sussex workmanship. From Tunbridge Wells to Rye, weather-boarding acquires so developed a technique as to suggest this region as a craft centre, while elsewhere a decorated plastering conceals the timber structure. Kent, Sussex and East Anglia were virtually the homeland of the lost art



Val Doone

*Brick and weather-boarding: this Kentish oasthouse is an example of the effective combination of materials derived from the Tertiary deposits of the chalk areas. The seemliness and compactness of what may be called a local industrial building strike the eye at once*

of plaster-work, in which lime, sand, cow-dung, road scrapings and bullock's hair were the ingredients. It extended thence into Huntingdonshire where as at Kimbolton the houses are of orange and brown and into Sussex but in a plainer style.

The old post-office at Bignor is a fine example of a combination of materials—timber, brick, wattle-and-daub and plaster in-filling with a jettied top-storey and thatched roof, the whole standing on a stone plinth—but the general impression is one of sobriety, sturdiness and compactness due to the happy relations between the diverse materials, none being stressed to the disadvantage of the others.

The small shingled broach spires of the Sussex village churches, their blunt towers and the continuous roof-slope over both nave and aisle still further emphasize the modest, homespun quality of Sussex building. The

church is a religious homestead and a child-like primitiveness, altogether captivating, links cottage to church and small manor in a continuity both historical and architectural. The unmixed Anglo-Saxon character expresses itself in Sussex more than in Kent where intercourse with the Continent not only fertilized the native craftsmanship but tempted it into some extravagance. The 14th-century priests' houses at West Hoathly and Alfriston underline this local continuity. It is impossible to distinguish their timber-work from 16th-, 17th- and 18th-century examples, when timber-framing reached its apex of mastery in design and elaboration, while the squat diminutive Saxon churches are by no means so sharply differentiated from those of the Middle Ages as the centuries between them would suggest. The individuality of Kentish regional building can be a little exhibitionist and its richness is in dramatic





Val Doone

*Tile-hanging and weather-boarding attained their maximum development in the south-east, extending inland into Surrey and westward into Sussex but always regionally faithful to the chalk. (Left) Weather-boarding in Mermaid Street, Rye and (right) tile-hung houses in Steyning, Sussex*

contrast with the severe church-towers of Kentish rag. Both differ from the undemonstrative Sussex style whose country demureness has a stamp of its very own. "Sweet Stay-at-Home; sweet Love-one-Place", as W. H. Davies sang, exactly describes it.

The architecture of the Dorset downland stands in something of the same relation to the architecture of Wiltshire as that of Sussex does to Kent's. Flint with bonding courses of brick or stone, brick and thatch were all in use but, with the exception of the last, less masterfully than in Wiltshire. Dorset reed-thatch (of red wheat-straw prepared by a special local process) is supreme over all others except that of Norfolk reed-thatch, which really is of reeds from the Broad. Dorset thatch weathers to a most comely mole colour, projects well over the eaves and billows over the dormers in such a way as to give the downland cottages of Broadmayne,

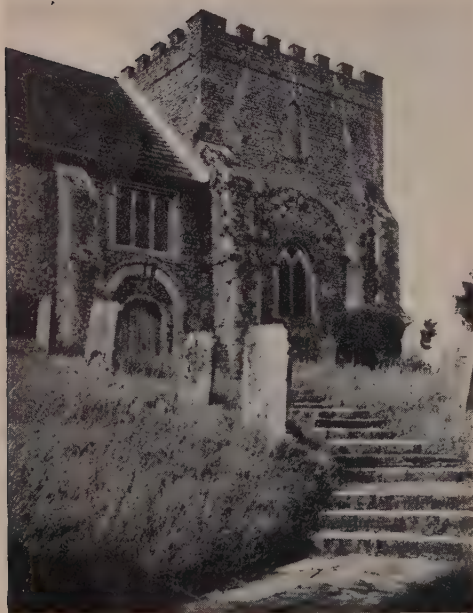
Tolpuddle and others a warm human expression. Colour washes, as at Ibberton, are rather exceptional on the chalk, though plentiful in Blackmore Vale, and, noble as are many of the church towers (the honey-coloured one of Piddletrenthide, for instance), they lack the grandeur of their archetypes in Wiltshire and Somerset. Timbering, again, is seldom absent from any part of Wiltshire but, except at Cerne Abbas, is uncommon in Dorset.

The Wiltshire masons added both pudding-stone and sarsen to the material at the disposal of both counties and combined them with an experimental boldness and resource which, since Wiltshire is the hub and node of the whole of England's chalk, are just as they should be. There is considerable variety, too, in the layout of the villages according to the different conformations of the river valleys. Ramsbury and Chilton Foliat are



Val Doone

*The only area of the chalk downland where thatching is at all uncommon is the Chiltern range. In East Anglia, where the materials were reeds from the Broads, a special and elaborate technique appears. In Dorset, the 'reed' is red wheat-straw and matures to an expressive mole colour, the thatch being brought low down over the eaves in waves like eyebrows. Sussex thatching, as can be seen in these cottages, is plainer and simpler, and the pleasure of Sussex regional building is its homeliness*



Val Doone

*Bramber Church is a good example of the homogeneity (and the continuity) of Sussex regional architecture. Its special Anglo-Saxon character is maintained right through from the Saxon period to the 18th century and except by technical details it is hard to distinguish one period from another. It is significant that the only Celtic place-name in Sussex is Mount Caburn, the great earthwork outside Lewes, and Sussex is more Saxon even than East Anglia where Celtic, Norse, Danish and Huguenot elements are present*



one-street, strung-out, generously spaced villages beautifully adapted to the breadth of the Kennet Valley, while those of the narrower Wylie Valley are clustered or "bosomed high in tufted trees" snug under the great ramparts of the lonely Downs.

The Hampshire villages are more patchy and less complex in their materials than the Wiltshire ones, but Odiham is a fine example of a colour-washed village built almost entirely in the seemly Georgian style. In the Wiltshire-Berkshire borderland along the Icknield Way below the Great Ridgeway on the crest of the Downs, there is a group of villages—Bishopstone, Woolstone, Uffington and others—which specialize in the sarsen stones used by the builders of the long barrows for their megalithic chambers and of Stonehenge for its trilithons. Further east, among the Hendreds, the Hagbournes and their kindred, flint replaces sarsen and this is handsomely varied with brick-quoins and string-courses, with thatch and tile roofing, with massive church towers of stone and well-proportioned reticent half-timbering. These different provincial idioms are all variants of the dominant Wiltshire style.

The central transeptal church-tower reaches right away from Potterne in Wiltshire to Ivinghoe in the Buckinghamshire-Hertfordshire borderland of the north-eastern Chilterns. Vernacular Chiltern architecture is a kind of pause or interregnum between the more prodigal flowerings of Wiltshire and East Anglia. Flint both for sacred and lay buildings is the commonest material, but this is diversified by roofs of russet tiling, brick fillings to simple timber-frames, flint-cum-brick plinths and gable-ends, white or colour-washed brick walls and some weatherboarding.

Black weather-boarded or flint barns with brick or timber gables are a special Chiltern dialect in chalk language, and herring-boning in brick was frequent before the flood of suburbanism effaced so many of the local characters in building. Even tile-hanging may be discovered by the diligent eye, but thatch is surprisingly sparse, though one place in the Chilterns is the only one I know throughout downland where ornamental

straw-dollies still adorn the ricks.

Ewelme Church in the south, Ellesborough and Ivinghoe in the north, have magnificent interiors of decorative wood-work, though the Totternhoe stone of the latter region is a bad and scaly weatherer. Otherwise, the Chiltern churches tend to be a little commonplace. Domesticity in architecture is the note of the whole region, as indeed is its landscape of woody uplands with their clayey and sandy loams, intimate folds, crumpled hill-chain and squeezed-in twisted valleys.

#### EAST ANGLIA'S TRADITION

I have left East Anglia (apart from its flint) to the last, because, though the natural scene, capped by boulder clays, is less down-like than any other chalk region, it has been the background to some superlative building. Its plaster-work, especially in the south (Clare and Saffron Walden, for instance), is particularly notable for the 'pargetting' of the surface, being combed and pricked patterns of chequers, scrolls, scallops, foliage and others, while the colouring may be white, pink, blue or green. The East Anglian native has always been distinguished for his dynamic energy and his tenacious and stable tradition in husbandry. But a further reason for its long Golden Age in architecture from the Middle Ages onwards was the powerful incentive to building given by the cloth-weaving industry. East Anglia was one of the busiest industrial areas of the past and so the regional craftsman made the utmost use of the natural resources the Cretaceous seas and Tertiary glaciers had presented him. What a contrast between what his industrialism created and ours has destroyed!

One of the principal centres of the trade was the group of villages—Long Melford, Lavenham, Kersey and others—near the north bank of the Suffolk Stour, further glorified in later times by the local piety of Constable and Gainsborough. Partly owing to the scarcity of local building stone, timbering was developed both structurally and decoratively to its utmost possibilities. The marvellous hammer-beam roofs of March and Chatteris in Cambridgeshire and of arched bracing elsewhere; the weather-







boarding of the nine Rodings in Essex and the windmills of Norfolk and Suffolk; the carving of bench-ends, family pews, font-covers and rood-screens in all parts of this country, are an expansion of the felicity in wood-work displayed on the corner-posts, oriels and finials of the comfortable houses in the Stour group.

Scarcely less remarkable was the artistry in brick. Many of the East Anglian church porches excel in moulded and faced brick-work, and Paycocke's House at Coggeshall reveals a mellow unity in herring-bone brick, linenfold panelling and rich plastering. Nor were these East Anglian craftsmen less mindful of structure than of ornament. Suffolk churches have a lightness and spaciousness in design as fine in their way as is the profusion of carving adorning the great marshland and the little Broadland churches of Norfolk.

How comes it, then, that the villages and townships of Fenland which abuts upon the East Anglian chalk are, with the exception of such ancient sites as Wisbech and Ely, nearly all ugly and shapeless? The reason is because the drainage of the Fens was not seriously undertaken until the Restoration. There was no guiding tradition behind the Fen builders, and where that tradition was strongest, there the native art was in direct contact with the regional materials which nature offered to the craftsman.

*Lavenham, one of the principal centres of the medieval cloth-weaving industry along the Suffolk Stour, is lavish in fine timber-work. Note the early 'post and pan' arrangement of the uprights, the jettied upper storey, the carved corner-post, diagonal bracing and fluted mullions of window-lights in the Old Wool Hall*

# Turkey's Freak Valley



by RONIMUND BISSING

In the heart of Asia Minor, midway between the Black Sea and the Mediterranean, the Aegean and the Caspian, is one of the strangest valleys in the world. It lies at the foot of a snow-capped extinct volcano, and in it are thousand upon thousand of cones. A 17th-century estimate put the number at 50,000, but this probably falls short of the truth. They are of all heights and shapes, some small and squat like tents, some tall and tapering, some broad and as high as St Paul's.

The origin of these strange formations is

volcanic. In some unknown century several thousand years before Christ the volcano, Mount Argaeus, erupted and threw out to a distance of some forty miles an immense quantity of volcanic ash. Over this there flowed a thin and irregular layer of lava. The lava was comparatively hard, the volcanic ash extremely soft. The lava surface cracked, partly in cooling, partly as a result of the extremes of temperature: for in summer the temperature is 100° F. in the shade while in winter there are many feet of snow. Heavy



rain and melting snow in the course of hundreds of years wore channels down to the river Halys and gradually cut through the volcanic ash, or tuff, leaving, as it were, islands wherever the protective lava remained. In some areas there was no lava at all, and there the whole region is reduced below the level of the rest, leaving ribbed, serrated sides where erosion still continues. In some parts a few boulders of lava must have lain, and now there stand island cones, with the single boulder on top of each. So long as the protective cap remains, wind and rain produce a streamline effect and the cone tapers to the size of the cap. But if the cone loses its cap, it quickly disintegrates.

To this fantasy of nature man has added something of oddity too. From early times these cones have been inhabited. At latest in the 6th century, and probably earlier, the valley was chosen by Christians as a secluded place in which to avoid the outside world. The cones provided ideal shelter for them. The tuff being so very soft, it was a simple matter to hollow out the cones. They then provided good protection against the weather, warm in winter and cool in summer. Moreover the necessity for wooden beams was avoided, an important point in a country where there are scarcely any trees. Altogether these strange configurations of nature were peculiarly suited to the needs of the religious community which settled there.

I was much helped in understanding this by a former stay at Mount Athos, where the requirements are probably very similar. At Mount Athos there are three kinds of dwellings: first, the twenty principal monasteries, each with several hundred monks; secondly, the smaller communities, often dependent on one of the big monasteries; and thirdly, individual hermitages and the dwellings of recluses, each with one disciple.

One sees at once how perfectly the cones provided for each of the three categories. The biggest cones and the valley cliffs were used for the big monasteries, smaller cones for cellules, churches and chapels, and the smallest cones for single anchorites.

Some of the monasteries are of considerable size, many stories high. Essentials are often very primitive. The means of getting from one story to the next is usually through a small

gap in the ceiling with only foot-holes in the wall to help one.

The access to cliff monasteries is by foot-hole only, and is often perilous. The exteriors are untouched, so that one would never suspect elaborate tunnelling within, and the doorway is often little more than a hole, so low that the smallest man must stoop. But once inside one may find beautiful carving, rows of pillars, and, in the churches, very fine Byzantine frescoes. Pillars are made simply by omitting to cut them out: they remain part of the solid ceiling and floor, and one wonders at the daring of those who carved the elaborate designs when one slip would have meant not a stone ruined but a whole cone. Refectory tables and benches are made in the same way, standing out from the wall or rising complete from the floor. One is reminded of the Caves of Ajanta, in Southern India (described in this Magazine in October 1937), where the rocks have been similarly excavated, and interiors painted with frescoes.

The character of this Turkish valley has quite changed. There is now no religious community and the only inhabitants are those who live in the twenty or so villages which cluster among the cones, and probably have always been very much as they are now—Urgüb, Ortahisar, Uchisar, Macan and the rest. The cones are no longer used for housing, and the monasteries, churches and cells have been converted to the use of the villagers. Some I saw were stores for corn,







others for straw, raisins, firewood and so on. Deep, dry rooms are particularly suitable for apples, which can be kept for two or three years without deterioration. But most of the cell windows have been blocked up and small round holes substituted for the benefit of the vast quantities of pigeons which are kept by the villagers—not for ornament or eating, but for their guano, which is the only fertilizer used for the soil.

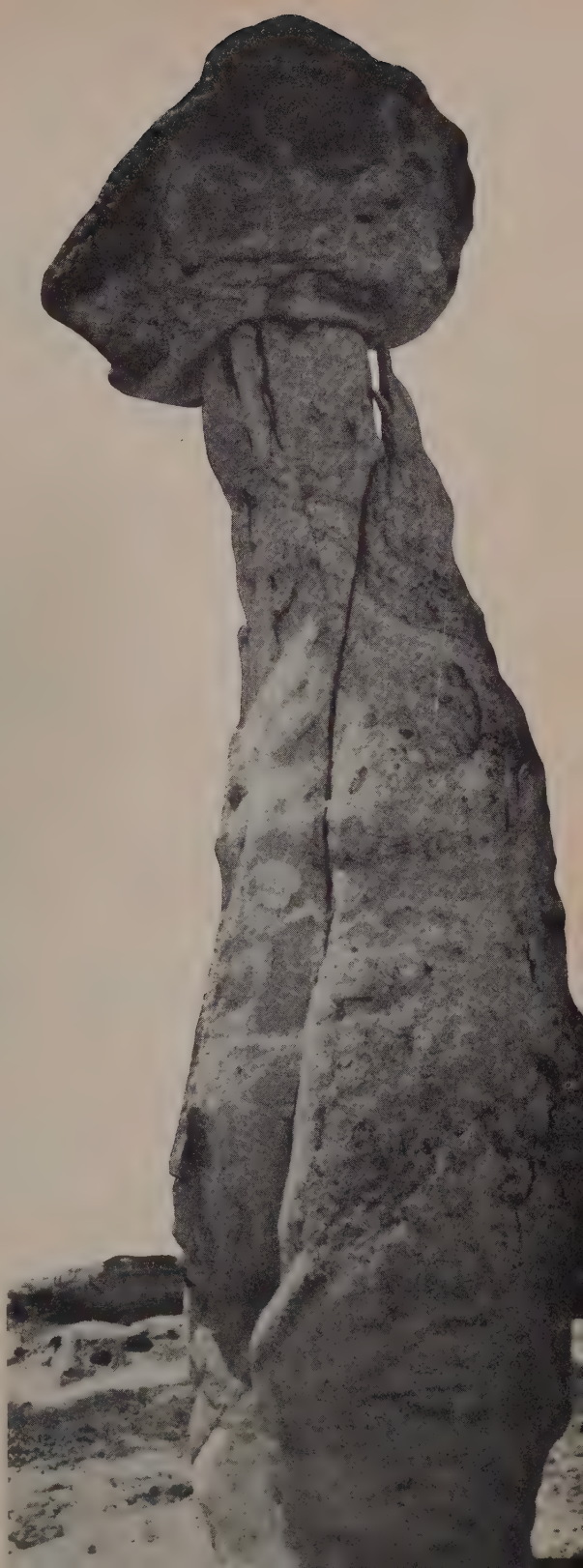
Farming is of course the main occupation now, as presumably always, with sheep and goats prominent. There is no soil in the accepted sense of the word, only the powdered tuff, exactly the same as the cone substance, being in fact what has been worn away by weather. It is a fine white powder and one's feet sink deep into it. It is very light, and ordinary farming tools would be useless: the spade actually used is long and slender in the blade, rather like a rabbiting spade only much lighter, with a light wooden handle about five feet long. When there is water and abundant guano the soil is extremely fertile. The grapes produced in the Valley are renowned throughout the region; the apricots are delicious; there is a legend that it was in this valley that they originated on the earth.

The people are healthy, pleasant and cheerful. The last time I was there, in the spring of 1939, I stayed with a family of the village of Uchisar, and was received most hospitably and lodged in comfort. The house was built of the same tuff, but quarried and cut into builders' stones. It was in two stories, two rooms to each, with a wide entrance between the two on the ground floor, and, above, a stone verandah where carpets were laid for one to sit. At the back were various other rooms, built in the rock itself, hollowed out in the traditional way. They were primarily for storage, and few houses are without something of the sort. The outside was beautifully carved, as were many other houses built in the middle of the last century.

Those who build today generally use quarried tuff, at any rate for the façade, though

*The valley of the troglodytes lies in the middle of Anatolian Turkey, fifty miles from Kayseri at the foot of Mount Argaeus. The caves were hollowed out of volcanic cones. (Opposite) A large cone divided into five stories which housed a monastery. (Right) An "island" cone with the boulder cap without which it disintegrates*

*All photographs by Ronimund Bissing*







Nowadays those who build generally use quarried volcanic ash. This house (left) at Uchisar, with its carved exterior, was built at the end of the last century. The girl carrying the water-pots would certainly have drawn the veil across her face if her hands had been free, although the ashmak she wears is rigorously suppressed everywhere else in Turkey.



The exteriors of the cones are usually unornamented, but inside one finds elaborate carvings, rows of pillars and in the churches very fine Byzantine frescoes. In this cone-church every part of the walls, arches, pillars and ceiling is frescoed. Despite the neglect of centuries, they are in a fair state of preservation.

The villages cling to the cliffs of the valley, which are honeycombed with ancient tunnellings. Inhabitants of today, however, do not live in these, but build houses with modern façades backing into the rock.





*A cone at Macan with a modern house at its side. Boys in this valley wear white skull-caps—like fezzes, officially banned*

many have all their rooms in the rock. One man I met had just finished work on his house, which he completed alone. There were two rooms, both hollowed from the rock, with a façade in the form of two Moorish arches in quarried tuff. Including the carving of the ceilings, the whole work had taken him a year. Of course the mere hollowing out of a cavity for a room is quick work, three or four days being enough.

At Uchisar one lived in the old Turkish style. I was with the men of the family, not seeing the women folk except for occasional chance glimpses and for a formal farewell.





*A pillared courtyard in the house where the author stayed at Uchisar. Precious brushwood and logs, collected through the summer, are heaped in a corner for the long and bitter winter*

We men ate and slept in the same room all together. Meals were taken sitting on the carpeted floor round a tray on which excellent food was placed, each person helping himself. At night a roll of bedding was brought for each and laid out on the carpets. The only window in the room was small and high up in the wall, and I soon realised with gratitude why this was so. The glare in the Valley is most trying to the eyes, both in the brilliant summer sunshine, when the cones and white powdery soil shimmer with heat, and in the dazzling snow of winter. To come into this dark, quiet room was a wonderful relief.

There are few places in Turkey so completely Turkish as this, I think. Life is little changed by the modernizations of Kemal, and one still sees the skull-cap fez, the baggy trousers and the women's yashmak which are rigorously suppressed elsewhere. It is still as it has always been, a region different and apart, in spite of being but ten miles from the great railway connecting the capitals of the West with the cities of the East. As in the old days the priests and monks and hermits lived their own lives within but a few miles of the great historic caravan routes, the Persian Royal Road and the Roman Highway.



# Sardines from Portugal

by PETER F. ANSON

*All photographs by André de Diènes*

VERY little is known about the life and habits of the sardine, a small pelagic fish, similar to a herring. It is caught in the Mediterranean, off the coasts of Spain, Portugal and Morocco, and finds its way as far north as Brittany. It is particularly abundant off Portugal, and along the coast of over 300 miles more than 60,000 fishermen are today engaged in the sardine fisheries.

The sardine fisheries of Portugal have been an important industry for more than eight hundred years. The chief centres of the industry are Matosinhos, Nazaré, Peniche,

Lisbon, Setubal and Lagos. Altogether there are some fourteen or more towns and villages where sardine fishing and canning are the main sources of livelihood for the inhabitants.

The origin of the fishermen themselves is uncertain, but it seems fairly clear that they are a mixed race, descended from Phoenicians, Greeks and Arabs, who came from the Mediterranean and settled on the Atlantic coast at some remote epoch. The fisherfolk have remained a people apart, with their own traditions and customs. The fishing industry is controlled, even today, by laws so



ancient that the sources have been forgotten. In some of the less modernized fishing centres, for instance Nazaré, where most of the photographs illustrating this article were taken, old customs, fashions in dress, and social habits still linger on, as much among those employed in the selling of fish as among the actual fishermen.

A modern Portuguese writer, Baltazar Coelho, tells us that the "little trot-like step at which they ran for miles from the shore to the villages or from the margin of the fishing rivers to the mountains, crying and chanting their carp and eels, still remains untouched, notwithstanding the wild competition of the motor lorry". He tells us that from Caparica to Trafaria, from Nazaré to Alcobaça, from Ericeira to Mafra, we still see

the fish-selling population with baskets on their shoulders or their heads, hastening towards the markets, fixing up their stalls or crying through the streets. As in Nazaré, Ericeira or Ilhavo, the selling and the buying woman at the auction sale is a wife, a daughter or a sister of the fisherman. . . . The woman is everything. In the north of the country, the fisherwoman of Matosinhos, for instance, takes the reins of government, and not a word of protest is heard.

What does the fisherman care for the land? It is the woman who attends the deliberations at the market and the well, who discusses home rights, who manages the home, and when words lead to blows, it is she who intervenes and decides the question. The fisherman ashore considers himself an exile; he accepts the shelter of the family roof, regards with indifference the quarrelling and fighting, and takes on no responsibilities. When old age reduces him to enforced idleness he acts the adviser and oracle, forecasts the weather, tells stories, smokes his pipe, but refrains until death from interfering with the family affairs.

Though the smaller fishing centres still retain their own characteristics and traditions, the picturesque costume of the fisherfolk that has attracted many a Portuguese artist is gradually being replaced by the international garb of workmen—factory-made dungarees. Some of the photographs that illustrate this article, however, show the tam-o'-shanter-shaped *barrete*, falling on one side and ending in a round black tuft, also the multi-coloured check woollen shirts and trousers. The women's dress is equally attractive and original.

Like fisherfolk in almost every part of Europe, the Portuguese are intensely religious. Along the coast will be found chapels, shrines and wayside crucifixes erected by seamen. In the towns and villages there are innumerable confraternities and guilds of fishermen, some of them dating from the 15th century, each with its own chapel, usually filled with *ex-voto* pictures or model ships, recording preservation from disasters at sea. The fisherfolk show great devotion to Our Lady of Fair Weather (*Nossa Senhora da Bonança*), the Holy Ghost (*Espírito Santo*) and the Wounds of Christ (*Chagas de Cristo*). It will be noticed that one of the boats depicted here is called '*Cinco Chagas de Cristo*'—the Five Wounds of Christ—and most of the fishing vessels are named after a saint or some special Catholic doctrine. You will find altars in the churches and chapels of the fishing villages where, at the foot of the image of the patron saint, a galleon or fishing boat is carved or painted.

Each district has its own class of boat, built to suit the locality. Some have curved bows and stern posts, others are sharp at both ends. Nearly all of them are painted with curious decorative patterns in bright colours. But these boats are being replaced by motor or steam vessels in the larger ports, and before long the *muleta*, *calão*, *galeão*, *buque*, *canoas* and other craft—all definitely Mediterranean in type—may have vanished from the Portuguese coast, just as the greater number of distinctive fishing boats have disappeared from Britain.

Sardines are caught off the coast of Portugal by various methods—fixed nets and boats working with types of ring or drag nets. The drag or seine net is still used by the fishermen of Nazaré and Peniche, who haul it in through the surf on the sandy beach on this part of the coast. The ring net is used at Lisbon and in all the fishing villages south of the Tagus. But about sixty years ago a new type of net, known as *cercos americanos*, was introduced in the southern province of Algarve. It is best described as a form of ring net, something like the nets used by the Breton fishermen, and, like all sardine nets, is composed of a very fine mesh. This net varies in length from 800 to 900 metres, with a depth of 65 to 75 metres, according to the water. It is







(Opposite) One of the 60,000 fishermen engaged in the sardine fisheries of Portugal. He comes from Nazaré and, like his fellows, wears a thick woollen shirt and trousers and the characteristic tam-o'-shanter-shaped barrete. (Above) Many sardine-fishing craft are still of a primitive type

worked from steam-boats that tow three or four small boats. Unlike the primitive types of nets which are only used within a short distance of the land, the cerco americano can be used far out at sea, the steamer following the shoals of sardines wherever they appear.

When using the 'valencian net' the fishermen of the province of Estremadura often fix large leather floats or buoys, painted in vivid

colours, to the net ropes, or else gourds or barrels decorated with stripes. These buoys rest on the surface of the water like enormous flowers. The most impressive moment of the sardine fishing is at dawn when the nets are hauled in. The crews of the small boats haul or beat the nets to frighten the fish and force them into the *copo*, i.e. a large bag at the bottom of the valencian net. Sardine fishing



*Sardine fishing is carried on at night and the darker the night the better the fishing: setting sail at evening from the mouth of the Tagus*

is carried on at night; the darker the night the better the fishing as a rule. The presence of fish is indicated by the phosphorescent light in the water, or by small bubbles of air on the surface, or by the presence of sea-birds that follow the shoals.

The number of sardines that may be caught in a single haul of the ring net is very uncertain. It may vary from one to four millions. Each sardine lays about 6000 eggs and the fish usually spawn off the coast of Portugal between December and February.

The sardines are in their best condition during the summer and autumn, the maximum size being reached in October and November.

It is in the early hours of the morning that the sardine ports are busiest. A Portuguese writer, Raul Brandão, thus describes the scene:

There is not a hamlet of half a dozen workers, hidden by the hills, where the sardine does not arrive—fresh from the sea. It is at this moment that the bands of lean and browned men, women





*Hauling in the nets in the early hours of the morning, the time when the sardine ports all along the coast are busiest*

barefoot with the skirt over the head, appear to dispute who will give most for the sardines scattered on the beach in lots. The mule-drivers load them in the baskets on the mules, and those from the Douro load them on the curious boats with large lateen sails; the huckster women pile them in wooden boxes or salt them at the bottom of casks; the *sanjoaneiras* and the basket women, with bare legs and baskets on their heads, all hasten on the road. . . . Even the poor and hungry await the days of a good catch so that they can find employment in the transport. Groups gossip and argue; the women cry out their bids, and more boats

arrive to discharge their heaps of silver fish on the beach.

After the lots of sardines have been sold, the contents of the boats are emptied into barrels and carried to the factories on the heads of the workers or in trucks and lorries. When they arrive at the factories, the fish are spread out on tables where women cut off the heads and remove the insides. At the same time they grade the fish according to size. After this the sardines are soaked in brine; next they are arranged on copper wire



*Slinging their ring-net onto a pole, two Nazaré fishermen set off to market their catch. At a trot-like step they run for miles from shore to villages, crying their fish*

racks which are placed under running water to take off the salt. Some of the larger sardines are filleted. The racks are then put into ovens, where they remain from five to fifteen minutes. The fish, still on the racks, are dipped in boiling oil, which is then drained off. The fish are thoroughly dried, either by being laid out in the sun or by artificial heat. Afterwards they are removed to the packing rooms, where they are put into tins automatically filled with the exact amount of olive oil. The tins are hermetically sealed and sterilized. Finally they are packed for transport to all parts of the world.

The preserved fish trade in modern Portugal has been organized by the creation of Manufacturers' Associations and an Exporters' Association, both of which are

directed by the Portuguese Institute of Preserved Fish. The interests of the fishermen have also been protected on a corporative basis by the formation of trades unions known as *Casas dos Pescadores*, and among other objects they have the power to negotiate and enter into collective contracts of labour. Most of the factories are as up-to-date in their equipment as those in any other part of the world. The processes of canning are carried out in accordance with the most scientific methods of food preservation in order to ensure the highest nutritive value of the sardine as an article of food.

In 1938 Portugal exported more sardines than any other country in the world; about 50,000 tons compared with about 16,000 tons from Spain and about 1500 tons from France.





*Girls washing the fish as it is brought ashore at Nazaré. Wives and daughters of fishermen are active in the sardine trade and do much of the selling and buying at auction.*



## A Cottage Industry in Assam

by Major A. G. McCALL, I.C.S.

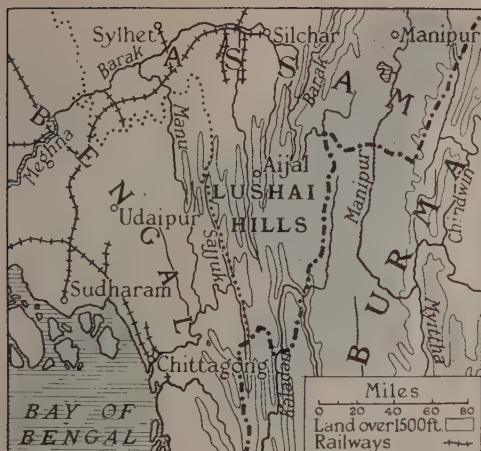
THE Lushai Hills lie hidden away on the borders of Burma and Assam, to which administratively they are attached. Lushai is a tract of 8000 square miles with 125,000 inhabitants. In 1898 the British Government took it over in order to protect British subjects in neighbouring lands against recurring raids.

Since 1898 there has been peace. The indigenous system of governing the people by hereditary chiefs has been preserved and now takes the form of indirect rule, the four hundred chiefs being responsible for the administration and welfare of their people to the District Officer, who is known as the Superintendent on account of his multi-

farious functions. The Lushais are intelligent and respond emotionally to theological and academic stimulus. But, except for the salaries and wages paid by the Government and the Missions, they have had no source of sustained income. The most discouraging factor in the development of export business has been the exceptionally bad communications.

Aijal, the headquarters of the district, is over 100 miles from the nearest railway. No motor road exists in any part of the district, which is served by 1000 miles of bridle-paths. These have to negotiate valley after valley, with river after river lying below a towering, irregular mass of hills that rise to five or even seven thousand feet.





Stanford, London

*The Lushais are an intelligent people but before the Cottage Industries organization was started the majority of them had no regular means of earning money. Their women possess a traditional skill in weaving. On the opposite page a woman is beginning to weave in the outside portico of her home, overlooking deep valleys and grand hills. Her mutilated ear lobe, to accept a large ivory ring, shows that she is of the older generation. Many of the younger women do not pierce their ears*



All photographs by Major McCall

Lushai, however, can grow good cotton and her women possess a traditional skill in weaving. Chiefly on this account, but partly to offer an attractive and paying diversion to a poverty-stricken and emotional people suffering not infrequently from malnutrition, the Superintendent and his wife, in 1936, conceived the idea of starting a Cottage Industries organization which would treble the values generally received from exporting cotton. Experiments started on cotton pile rugs. After a favourable report the excitement was great. The Joint Organizers, from personal savings on salary and borrowings from the Bank against a personal Life Insurance Policy, raised a capital sum of £400. The Lushais were shown what was wanted and many jumped at the opportunity of earning what they thought was easy money. In due course the first consignment reached the selling agent, who, however, wired that the rugs were not up to standard or type and could not be accepted. This was the first,

and up to date last, crash. A better rug was produced which was firmly accepted by the selling agent at a price suitable on all counts. Mrs Joint Organizer then set about teaching representatives from villages how to make the standard rug. Volunteers came in to headquarters on the understanding that they undertook to teach other weavers in their villages. These volunteers were taught each process of the cotton standard rug and all who completed one were paid at full rates, provided with a certificate of authority to teach, and sent back to their villages with a firm order for two or three rugs.

These early efforts were being carried on in the personal residence of the Joint Organizers, where rugs were measured, bought, stored and the accounts maintained. Then the Imperial Tobacco Company, through the good offices of the Resident Director for all India, Mr R. G. Baker, gave the Industries some much-needed help by placing a firm order for rugs to be



included in the coupon gift scheme current at the time. This guaranteed an offtake for the best quality rugs. It also meant that the Industries had been successful and that the public would buy and buy again.

The original rugs had all been in natural white but a demand for colour arose. So arrangements were made for two Lushais to go to Calcutta to learn aniline dyeing. Within three months coloured rugs were being processed in Lushai. But it was one thing to process at headquarters and another

to sustain the working principles of the Industries which demanded that all work should be done in the Lushai homes. To meet this need each village was given a colour, and a representative from each was taught the mechanical process of dyeing his own particular colour. Machinery was set going which permitted dye ingredients, prepared in proper proportions and in appropriate measures, to be taken out to the villages by the dyers, payment being made in return of an adequate quantity of cotton, dyed and



(Top left) Communal weaving is the rule in Lushai, for one of the conditions of work is that there shall be no selfishness, all agreeing to stimulate the art among others.

(Bottom left) For the first years of the Industries' existence all work was carried on in the home of the Joint Organizers. These rugs are being bought from the weavers on their long verandah, where this finisher (bottom right), from hand-spun, hand-woven, Lushai-dyed material of many colours, fashions attractive pochettes, ladies' belts, aprons



(Right) While she separates the cotton, the weaver lets the nicotine water collect in the lower part of her pipe, so that later she may give it to her lover as a potion. She wears amber beads

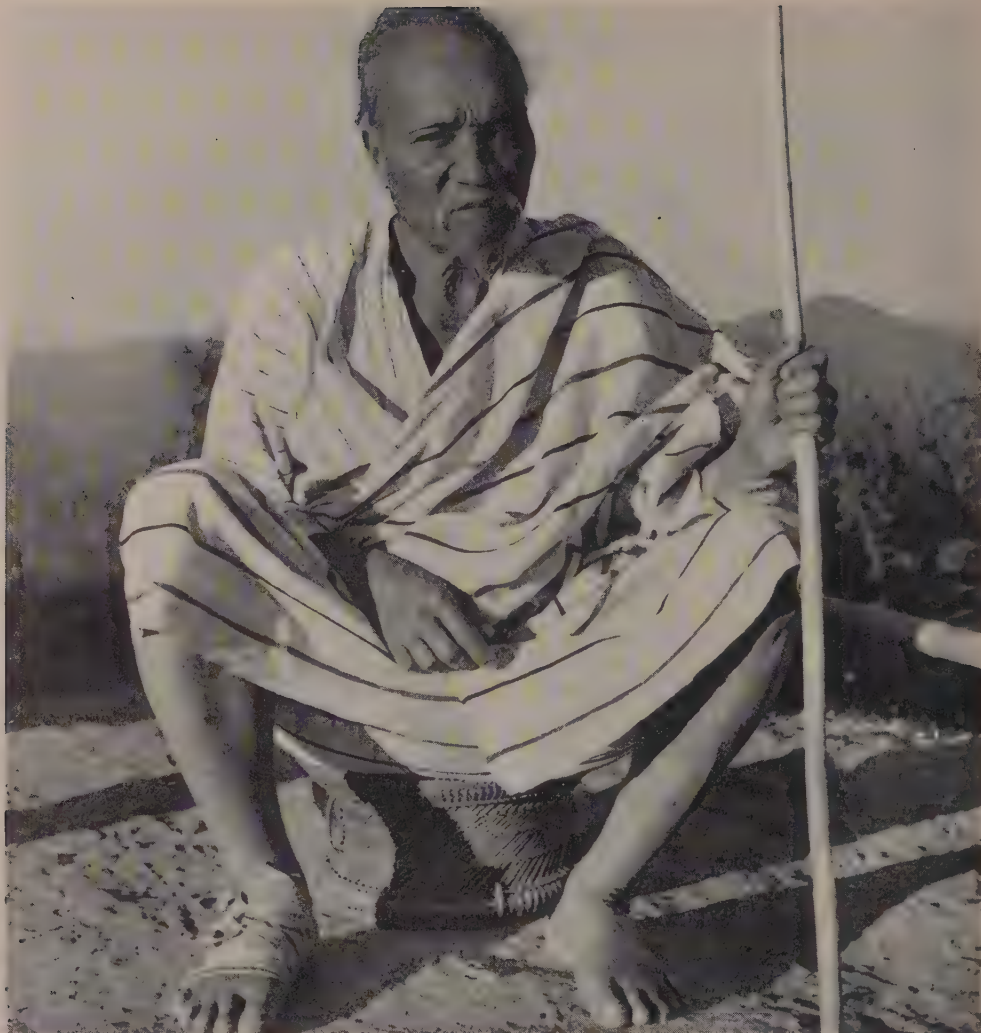
made up into finished rugs by the village weavers.

The position in 1940 was that market demands outstripped supplies from Lushai and the accounts showed a turnover of something like £600 a year—which will grow as competent weavers increase.

The wisdom of introducing cash as part of an otherwise simple economy among such people as the Lushais is sometimes questioned. But at present Government asks no more than three shillings a year from a house of Lushais

which may contain up to ten souls. Yet the people are being educated, given places in the administration of all branches of Government and Mission activities, and receiving encouragement to improve their material and hygienic condition. In the face of contacts with more virile cultures and outside traders it is no longer expedient to attempt to preserve the people as museum pieces for indulgent spectators.

Difficulties there have been. But the price paid for processed cotton affords weavers



*A chieftain of the Lushai people. He belongs to the Sailo clan, which established authority over the hill clans when the virile Burmese tribesmen drove the Sailos into Lushai*

three times more money than the average price realized on exported cotton. The Lushai temperament is difficult. The people are not short of food. Money has little significance once the small Government tax and year's supply of salt have been provided for. The Lushai will accept gifts or easy money but his needs are insufficient to induce him to undergo great pains to satisfy them. This fact militates against the men relieving

their women of heavy work in order to weave and bring money to the family. Insistence on rugs and their backings being up to standard and closely woven is countered, not infrequently, by sulks and the abandonment of an excellent training. But once all these obstacles are negotiated weavers are disinclined to give up. Some families are educating sons at High Schools outside the Lushai Hills on the proceeds of their labour.





*A young Lushai contemplates the world—his world—which is one of endless hilltops rising one behind another as far as the eye can see*

Not more than five per cent of work offered by Lushai weavers now fails to receive full fixed price. Suitable tasks are available for pregnant women in need of financial assistance, the weak, or the deformed. Products are in increasing demand. The Industries pay out rebates to specially industrious village communities from which measures for social services become possible

for the first time in history—such as the employment of nurses in villages to replace untrained midwives. The Industries stand as custodian and revitalizer of Lushai's ancient designs and arts. They are now housed in a splendid little building named Reid House to perpetuate the memory of its patrons, His Excellency Sir Robert Reid, Governor of Assam, and Lady Reid.

# South of Bangweulu

## A Canoe Journey through African Swamps

by VERNON BRELSFORD

WHEN Livingstone first heard of the lake in Northern Rhodesia that we now call Bangweulu he knew it as Lake Bemba, and 'Bangweolo' as an island in it. Later, but before he discovered the lake, he heard that Bemba was the name of the people in whose country the lake was situated and that the lake itself was more properly called 'Bangweolo'. He records with a flash of humour, "I fear that our English folks will boggle at it, or call it Bungyhollow". He discovered the lake in 1868, and died in 1873 in the great swamps that, during the rainy seasons, cover the flat area to its south and east.

Later, the lake was revisited by several people, including Bia and Giraud; then in 1896 Poulett Weatherley circumnavigated it for the first time. These men were matter-of-fact observers but in the early 20th century the area was visited by the more romantic type of traveller.

Paul Graetz, the famous German explorer and traveller, crossed Africa from East to West by motor car in 1909, and a few years later he attempted to cross by boat. His route was up the Zambezi River from the Indian Ocean and then up its tributary the Luangwa; from near the source of the Luangwa in Northern Rhodesia he made a portage across land to the Chambezi River which flows into the southern swamps of Lake Bangweulu. From there his route was to be down the Luapula River into the Luena, which would lead him into the Congo and so out into the Atlantic.

It was an adventurous and bold project which would have led him into some of the least known parts of Central Africa, and it deserved to succeed.

Several days before reaching the swamps of Bangweulu, and while still journeying down the Chambezi, he met with a buffalo so large as to seem "like some prehistoric monster". Graetz wounded the beast and it attacked. His French companion came to his rescue, but they were both badly mauled before the

buffalo was killed. The Frenchman died the same night, but Graetz survived and help came from Kasama, the nearest European settlement, two days' trek distant.

The journey was abandoned for some time while Graetz recovered; but the adventure was finally ruined on its resumption when his boat *Sarotti* was wrecked, and smashed beyond repair, in the rapids of Johnston Falls on the Luapula River, the boundary between Northern Rhodesia and the Belgian Congo. The war of 1914 came and no more was heard of Graetz in this part of Central Africa, except rumours that he was a German spy, mapping and becoming acquainted with the country in order to further the purposes of the Fatherland.

In his day Bangweulu was "a mysterious sheet of water", the probable home of prehistoric animals, and certainly the habitat of the Batwa, the water-loving pigmies with webbed feet. But nowadays the vast areas of swamp and lake have known one temporary Government post and in boom years have been the haunt of a few hardy English otter-hunters, one of whom still remains. The islands of the Batwa are visited once a year by a District Officer and on two of them the Catholic White Fathers have established missions. The late J. E. Hughes wrote a fascinating and authoritative book, *Eighteen Years on Lake Bangweulu*, after spending that time in the area.

The southern edge of the lake is surrounded by a vast area of papyrus reed swamp of over three thousand square miles. It is the home of the Batwa, not web-toed, but now recognized as a cultural unity, physically and linguistically allied to the surrounding mainland tribes from which their ancestors were the outcasts and criminals. They live in grass and mud huts on the small earth islands, and their life is spent in canoes, fishing, and in driving the enormous herds of black lechwe to death and hunting that elusive and shy swamp animal, the situtunga. The thick



tangled masses of reeds are pierced by channels through which dug-out canoes can travel. During the last war the more important of these channels were cleared and stores sent from Ndola, on the railway line, by river through the swamps and so on to the Great North Road in Northern Rhodesia, where a handful of troops was fighting a rearguard action against von Lettow. The main channels are still kept open, and some of the once mysterious Batwa may now be seen paddling the fortnightly canoe which takes goods from Kapalala in the Belgian Congo to where the Great North Road crosses the Chambezi River, a fourteen-days' paddle.

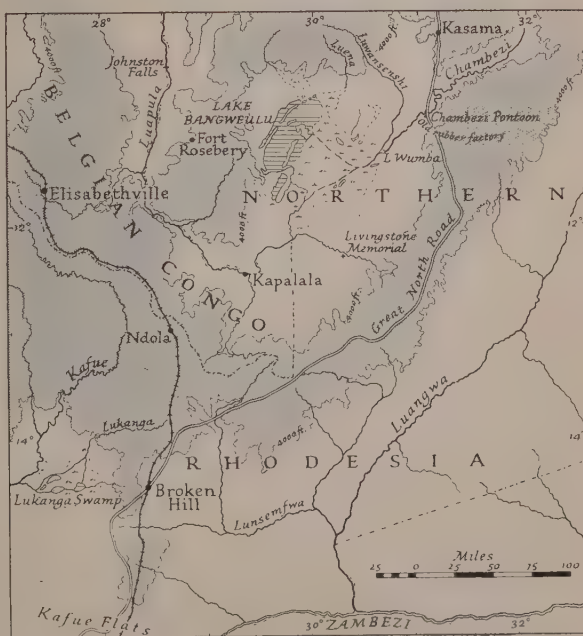
In November of 1938 I was making one of the annual Government tours to a portion of the Southern Bangweulu swamps. I travelled for hundreds of miles on the same, but often-travelled, route followed by Graetz. My bark was a dug-out canoe from the tree known as Mofu that supplies the largest dug-outs known to Central Africa. It cannot be cut without the performance, first, of an elaborate ritual, designed both to propitiate the spirit of the tree and to ensure the trunk a long and safe life as a boat. The canoe was forty feet long, three feet wide in the centre and equally deep. Over the middle portion was a wooden framed roof of thatch, and running along the gunwale were wooden compartments for holding guns, fishing-rods, camera and such-like essentials. I sat comfortably in a deck chair, shaded from sun and rain, surrounded by boxes containing all my kit, tent, bed, food, books and office box, and the canoe was driven along by ten paddlers, four in front and six behind.

I set off from the old British South Africa rubber factory on the Chambezi River, and for four days I journeyed downstream. I almost said drifted downstream, but at the end of a long dry season the river was very low and every four or five miles we came across rapids or rocks revealed by the low water. The canoe would stick with a slow but inevitable grating and the paddlers would stop and for a few minutes

chatter altogether, debating which was the best channel to follow. Then they would all jump out into the shallow water and with shouts and encouraging cries pull and tug and push until the boat floated clear again. Then on we would go again for another few miles until more rocks were struck. Each time the performance was the same.

Africans rarely talk softly or in what we should call a normal tone. A story is told of a Congo native visiting Belgium who said that the most noticeable thing about a European city was the fact that all the people talked in whispers. An anatomist has said that the resonance of the black man's voice is due to the great number of air spaces in his head; and he means that literally. I noticed the loudness of African voices especially on this trip. The paddlers in front and back literally shouted to each other across the few separating yards.

On one or two occasions at the beginning of the journey I asked them not to make so much noise. The result was silence for a few minutes, but a still longer period of inactivity on the sunken rocks. There seemed to be no cooperation of labour without noise, and the





E.N.A.

*Paddling quietly down the river after game, the only noise is the swish of the water*

louder the noise the more work was being done. One man would pull at the gunwale half-heartedly, another would pull or shove, and, although the steersman who acted as skipper would be giving directions, no man seemed to believe his fellow was pulling the same way unless he could hear him shouting to say so. The front paddlers never turned round to shout; they just looked straight ahead and yelled. In the same fashion the members of a trail of natives winding its way, single file, along a narrow bush path never turn their heads, whether they have loads on them or not. They shout into the air in front and their words carry back.

The banks of this middle portion of the river Chambezi are thickly and attractively wooded, and considering that Northern Rhodesia with its population of under four persons to the

square mile is one of the most thinly peopled countries in the world, I was not surprised to pass only three small villages on the banks in four days' journey.

At one of these villages early in the morning everyone was drunk. From miles away I had heard the drums thudding; not in the constant, sometimes wild, manner that accompanies a dance on a moonlight night, but in an intermittent, haphazard fashion. I thought nothing of it until I was about to land and heard the tired raucous voices of the few 'bloods' who were sitting-out the last pot.

At our arrival the drumming stopped, but the headman and most of the men were far too hazy to talk or be 'censussed'. In my anger I sent the Messengers on a hut-to-hut search and they unearthed five more large pots of beer in various stages of fermentation.



As a grand gesture to salve the outraged pride of His Majesty's representative I poured all the contents out onto the ground in front of the elders. The Head Messenger shook his head—"When Bwana Kaputula found the people of this village drunk he emptied one pot over the headman's head and left the pot stuck there". One of the functions of a Head Messenger is to relate to the District Commissioner the virtues as well as the idiosyncrasies of his predecessors. Bwana Kaputula (Khaki Shorts), the District Commissioner of three years before, had climbed every hill, dealt fairly with every chief and headman, settled all classes satisfactorily, shot plenty of game, given large presents and generally made himself a paragon that the Head Messenger described for me at every opportunity.

Having thus had one more lesson on how the best District Officers do things, we went on. In most places except where a small green swamp indicated the entry of a small, hidden, overgrown tributary, the water was clear, and I could see the large beds of freshwater oysters. Lacerda, the Portuguese explorer who in 1798 had made one of those early African journeys characterized by mutinies of carriers, attacks by hostile tribes and every other sort of hardship, had forded the Chambezi on his way to the lands of Kazembe. He had commented on this river, famous for its oysters. I have never dared to eat them, and the natives do not eat them, but Mrs Simpson, the wife of that famous African character 'Chambezi' Simpson, cooks them in a special way and then they may be eaten safely. The only buildings on the whole 300-mile length of this river belong to two Europeans, and oysters are often burnt in order to obtain the lime which is lacking in most of the rocks in the plateau.

After two days the rapids were passed, and, in the early morning at least, I managed to keep the paddlers quiet. The only noise was the swish of water and we were able to creep silently up to unsuspecting game. There would be a sudden crashing and a disturbed herd of waterbuck would dash into the bush, leaving a vision of an old grey ram standing with chest thrown out and horns well back for a moment, as his wild eyes sought to catch a glimpse of the intruders. Then he would dash after his family with an absurd short-

stepping gait, like a fat man trotting pompously, but not too fast, in order to catch his train. The metallic call of guinea-fowl lured me to the bank on some morning and many a plump bird fell to the gun before the dew had been shaken from its feathers. It was often worth while to pull up under steep banks and scramble up the small cliff carefully in the hope of getting a shot at a puku grazing alone on the flat plain.

But the jokes came in the heat of the day. There would be a whisper from a front paddler and he would point a finger. A fat, noxious crocodile asleep on the bank! Then we experienced the joy of the quiet drift closer; the vindictive thrill as the sights levelled on his loathsome body; the yell of delight as the stricken murderer of men dived open-mouthed into the water; and the shouted jokes as the killer of women writhed, splashed and dived in his death agonies.

The fourth day out I reached the small lake that marks the junction of the Chambezi and Luwansenshi rivers. We had previously met occasional schools of hippo, and one of the habits that surprised me had been their ability to slide so silently into the water from the thickly-reeded banks. Now, just at the entrance to the lake, one slipped quietly underneath us from the near-by bank. But he did more. He seemed to arch his great back underneath us as he went in, and for all our ton-and-a-half we rocked wildly, and I half rose to jump from under the imprisoning shelter, feeling more frightened and helpless than ever I have before. The beast sank suddenly and our fright was momentary, but one of the nearside paddlers held up his shattered paddle. A savage snap of the massive jaws had smashed it completely in half.

Through the glasses I could see, across the lake of several miles of open water, the village that was my camp for the night. And banking behind it the black row of clouds that indicate the afternoon storms of the early rains. We paddled on while the wind gradually grew stronger and the smooth surface of the lake grew choppy. The line of black clouds became an enveloping shroud, the wind edged the waves with foam, and the head paddler swung the canoe to face the wind. The paddlers were silent now, all bowing strongly to their work; the canoe was

tossing, and, long before the driving rain came, my messenger and personal boys were all aiding with spare paddles. I fixed my eye on a point on the shore opposite me and for minutes on end I saw that we were practically stationary in spite of the extra paddlers. My loads were wet through and water was lying several inches deep in the bottom of the canoe. I sat shivering with the wetness, a little frightened lest the creaking canoe should break; but in spite of my visions of crocodiles' jaws I hesitated to tell the paddlers to run before the wind and try to make the bank. For half an hour the squall lasted and then it died quickly. The chattering broke out again and the paddlers soon warmed, while I sat shivering.

As we landed at the village, Wumba, as the lake is called, lay quiet and grey in the dull evening light. I could see the low lands all around it enclosing a heavy leaden mass that looked too viscid to be ruffled. Close to where I stood, in front of a hastily kindled fire, the limp dripping bush fell away quickly to the water edge. The smoke of the village fires struggled crazily against the damp air and high over the huts a skein of geese flew in from some distant feeding-ground. There was an air of melancholy over the scene, an atmosphere of wildness acquired with old age, a raggedness that comes of hanging onto life too long. Not Africa the young, the land of opportunity, but Africa bowed with the weight of centuries, displaying a monotony that must resemble eternity.

Here the next day I was met by the chief's Kapasu, or policeman. He brought before me two of the oldest and most withered natives I have ever seen walking. A man and a woman. They had been discovered indulging in the forbidden boiling-water test for witchcraft.

These two old people had lived in the same village and known each other all their lives. Then one night a week ago they both had occasion in the middle of the night to go out to their latrines. On their return to their respective huts, in the darkness, they had bumped into each other. There were mutual protestations of innocent wanderings but, based on an assertion flung out by one of them that only witches wandered about in the middle of the night, these two lifelong friends

felt it necessary to assure each other that they were not witches. So great is the terror of witchcraft that even the most ordinary of events can be construed as evil by the fear-ridden minds of the natives.

Arms had been plunged into water but as neither of them was scalded, it could not have been boiling. They were seen and watched squatting round the pot just outside the village, and no doubt, while insisting on the ritual, they had waited for the water to cool, each knowing in their heart of hearts that the other was harmless. It was a pathetic little story and under the Witchcraft Ordinance the maximum punishment was £100 or seven years in gaol. I spoke to the old couple as reasonably as I could, knowing that my words fell on minds too old to understand, and sent them home again.

On the next day I left the broad Chambezi and entered the mouth of the Luwansenshi. Livingstone, a month before he died, crossed these two rivers near their confluence. Sitting comfortably in the large boat, one could not avoid the vision of this great intrepid man, sick and weak, struggling with his badly equipped entourage through these eternal swamps. For every Northern Rhodesian, Livingstone's *Last Journals* are more than just books of travel: they are the beginning of his country's history, and the courage and vision of this man ought to be his constant inspiration.

A winding, twisting stream is this Luwansenshi, with wide beds of reeds on each side of the main channel. The current was against us and it was hard work turning round the sharp bends. Coming suddenly round a corner, we nearly struck a rough shelter of grass put up on a more than usually solid portion of sudd. This was the temporary home of three men who were catching and drying fish for transport to the native compounds of the Copper Belt. On this small clump of reed, where the water lapped almost against the sticks that held up the grass shelter, I could see with one glance all the belongings that made up the menage of several weeks. But what interested me was a large hippopotamus harpoon. This was a barbed iron head set in a shaft of wood which had a float of light wood attached to it. When thrown at the hippo the iron head is released



from the shaft, but a long coil of bark rope keeps float and head attached, and the hunter can follow the movements of the quarry which dives when struck. Some tribes use several of these and tie up the hippo to near-by trees until it exhausts itself by trying to struggle free.

I left the island of stinking fish and went upstream. For three days I travelled and, having visited the few villages on the banks, returned downstream. The high papyrus reeds tower on each side of the boat and the impression is of travelling through a winding gorge; sometimes the gorge narrows so much that its trailing sides brush each side of the boat uncomfortably, and seeds and small spiders are cast indiscriminately over one's bare neck. At night a channel is sought that leads to a flat plain, dry at present and, more often than not, occupied by a herd of black lechwe. These buck, which can be found nowhere else in the world, are, according to Captain Pitman, Game Warden of Uganda, the true type of lechwe from which is sprung the larger type further south on the Kafue flats. Here on Bangweulu they still roam in their thousands, male and female herds keeping apart.

The wind that brings the rain sweeps with great force across these open plains, and frequently bamboozles the Head Messenger as to

its direction, for, often, no sooner is the tent erected and the fire built in front of it than the wind changes, when first smoke and then rain sweep into the open doorway. As the rain will quite possibly last all night a hurried change round of the tent is necessary, an operation that calls for as much shouting and chattering as did the pulling of the canoe through rapids. The ground, even when dry, has a spongy feeling, as a result of being under water for four or five months of the year, and now after a heavy rain one has an uncomfortable feeling that the green sward is just a thin covering with water underneath. At lunch-times it is often difficult to find a piece of dry land, and food is eaten in the boat or else awkwardly on a steep-sided anthill which can just be reached. The latter method, in spite of its discomfort, is preferred, as the paddlers get a rest and a chance to cook their porridge, and no slope is steep enough to prevent that.

The African picks up the most astonishing and ostentatious titbits of civilization. After leaving the Luwansenshi villages, I noticed one of my houseboys flashing the most perfect gold tooth as often as he could. It was my first contact with a fashion set by one of the sophisticated prodigal sons from the big copper mines and the 'gold' was but beaten brass. At one of the villages I passed, an old tribal maker of brass rings and bracelets was



E.N.A.

*Crossing the river Chambezi in a dug-out*

turning his old craft to new work. Bracelets were 'out' but teeth were 'in'.

My re-entrance into Lake Wumba was again accompanied by rain. I had been told that the name Wumba was that of a big bird that lived close to the lake, and as we approached it there was a cry from the carriers of "Wumba, wumba!" I hastily disentangled myself from a tarpaulin that I had wrapped around me to keep off the rain and was only just in time to see a large bird drop into the reeds away to our right. After a search we failed to put it up again and from the brief glimpse I had of its size and colouring I judged it to be a Goliath heron, an opinion that I later verified.

The journey down the Luwansenshi was done in one and a half days, but the return up the Chambezi took seven days. The trip was made exciting by another hippopotamus encounter. One evening, returning late from shooting in an empty canoe, we disturbed a herd of the great beasts feeding on the bank. They all took to water and escorted us away. It was frightening. The night was black and the river dull and lifeless in front of us. Then on either side and behind us, one after another, the hippo would come up and blow and grunt. We ran for the bank, but for ten minutes or so the animals swam along with us grunting and blowing in indignation at being disturbed.

Passing the rapids and rocks going upstream was an even more noisy adventure than going downstream. Twice we found the stinking remnants of crocodiles we had shot, caught up in reeds, and once at a lunch stop we crawled up to within fifty yards of a herd of grazing elephant. I was, of course, expected to shoot, but they were not garden-raiding, the nearest gardens being at least twenty miles away, and I very thankfully made this my excuse. The old yarn of shooting first and then planting a garden round the corpse did occur to me, but I had my enjoyment by merely watching the great creatures.

I have always enjoyed buffalo hunting. It has appeared to me to entail just the right amount of danger to stimulate a nervous man who fears the more definite hazards of elephant, lion and leopard hunting. But the

day after meeting the elephant, also at a lunch stop, I fired, at close range but in a cowardly fashion, at a buffalo lying down enjoying his midday siesta. I hit too far back and the animal was up and on top of me before I had time to lower the rifle. I fell backwards and the buffalo, just as astonished as I was, also fell back on his haunches as he met me, wheeled like a polo pony and was gone. It was the fastest series of movements I have ever witnessed. I got up noticing that the gun-bearers had been frozen in the attitudes they assumed before the shot was fired. I followed the animal, and, taking more care with my second shot, killed him. But my opinion of buffalo hunting had changed. The cat-like agility of the huge beast had frightened me. I had credited him before with bravery, strength and cunning, but never, until now, with lightning speed.

We went on slowly, paddling up the pleasant river, and it was with regret that I saw again the brick walls of the rubber factory. I little realized how soon this pleasant spot was to change. The Chambezi here marks von Lettow's farthest advance into British Territory, and the corrugated-iron roof of the factory showed the holes made by the last bullets fired in the last war, as late as November 13, 1918, by the German advance-guard. The next floods, that rose after I saw it, undermined the building and it fell. As though this was an omen, the death of 'Chambezi' Simpson soon followed, and though the Great North Road crosses the river here, by pontoon, no European now lives there.

But the water-ways and swamps such as I have described are still Africa's most fascinating country. The great rivers that wind through hundreds of miles of wilderness may be crossed by motor roads but are not followed by them. The far-away shriek of the fish eagle soaring high above the swamps is a sound that typifies desolation as no other sound can, and once heard its recurrence always arouses a nostalgia for the lonely flats. These swamps and rivers of Africa will be the last that the spread of civilization will touch, for there is nothing of value here except beauty, wildfowl, animal life and a few human beings.



# The Philippine Islands

by HELEN DICK

*The Philippines, which contain one of the most important United States naval bases, in the harbour of Manila, are destined to be of supreme strategical importance if war spreads to the Pacific. The author of this article spent her childhood in the islands where for many years her father has owned and edited the Philippines Free Press*

CORREGIDOR, a fortified rocky island, stands guard at the gate of the almost land-locked bay of Manila, which is ringed by mountains. There, during the winter months, the United States Asiatic fleet lies at anchor.

After three days in a fast ship from Singapore, or a day and a half from Hongkong, or three and a half days from Yokohama, the first impression one gets of Manila's docks is of the brightness of the sunshine on the white concrete walls and the corrugated-iron roofs. Scores of brown-skinned Filipinos gaze at one's ship as it draws up to the pier.

Once past the customs, one sees the blank grey stone walls of Intramuros, or Walled City, built by the Spaniards in the 17th century. Only the Cathedral spire overtops

them. The visitor follows the broad boulevards built along the seashore to the big hotels and the central plaza called 'the Luneta'. This is Manila, capital of the Philippines, a group numbering over a thousand islands.

Magellan discovered them in 1521 and called them the Lazarus Islands, but long before this a lively trade was carried on with China. Magellan was killed by the natives. Twenty-two years later, Villalobos arrived, sent by the viceroy of Mexico, and renamed the islands after Philip II of Spain. By 1560 complete Spanish control had been established and a number of Spaniards, attracted by the natural wealth of the Islands, were trading with the natives, to convert whom priests were sent from Spain.

## THE U.S.A. TAKES OVER

In 1762 the Spanish Administration was interrupted for a brief spell when the English occupied the Islands. Towards the end of the 19th century the Filipinos rebelled against the Spanish oppression. In 1896 the revolt was smothered, only to break out later with help from America, at that time at war with Spain in Cuba. After her defeat, Spain agreed to cede two of her colonies to the United States, Puerto Rico and the Philippines, for which a payment of twenty million dollars was made. American government, headed by the President of the U.S.A. and represented by a Governor-General in Manila, was instituted. Senators and Representatives were elected and two Houses of parliament formed.

The Islands prospered. Sponsored by American capital and plant, companies were formed to run anything from mining to shoe manufacturing. Schools and universities, for so long a monopoly of the rich, were opened on American lines, thus enabling the ordinary citizen to train for a trade or profession.



Stanford, London



*George D. Aked*

*The Filipinos are a light-hearted people and enjoy life. These children at Jolo are diving for coins flung from steamers that ply between the islands. (Below) Fish baskets at Jolo*

*George D. Aked*







*George D. Aked*

*Market day in Zamboanga. The fruit is mangoes and the baskets in which it is carried are made locally of palm leaves*

Expansion of trade and prosperity turned the Filipinos' thoughts to independence. In the 1920's there were loud cries from the people for 'freedom' and American goods were boycotted. In 1933-4, after protracted discussion, the Philippines were promised complete independence in 1946. Partial independence was at once attained, and Manuel Quezon, a Filipino, was chosen as President. On August 19 of this year, his fifty-third birthday, Quezon declared that the Philippines were "with the United States in life and death". This may seem strange to those who remember the Philippine agitation of fifteen years ago, but Japanese infiltration has in the meantime come to the fore and the danger of the Japanese menace is recognized.

#### A BARRIER TO AGGRESSION

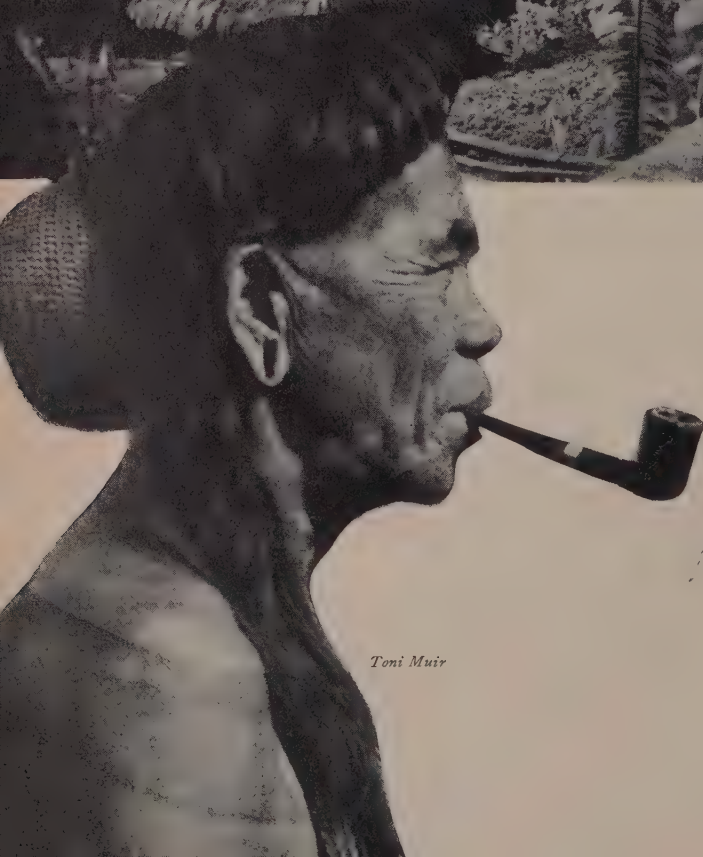
Manila, owing to its strategical position, has proved a convenient meeting-place for British

and American defence talks in the Far East. The Philippine Army, now three years old, has completed the training of 120,000 recruits; extensive reinforcements from the U.S.A. have been landed and it is estimated that over 1000 American aeroplanes are now based at Manila. The Philippine defence programme was recently granted ten million dollars from American funds. This does not include the millions spent on the United States Naval Air base of Cavite.

In the event of Japan's attacking Malaya the Philippines would form a valuable supply base for the British Navy even if America did not enter the war. Should Japan throw in her lot with Germany and decide to go south, one of the first problems she would have to solve would be whether to remove the potential Philippine menace to her freedom of action. For the Philippines lie right across her path to the Netherlands East Indies,



*George D. Akers*



*Toni Muir*

An Igorot or mountain village in the northern part of Luzon and an Igorot man from Bontoc. He carries his belongings in his little straw cap, the pattern of which shows whether he is married or single. It is hand-woven in brilliant colours. In these villages the people weave their own clothes but they delight in going to the towns to trade cane, rice and other goods for imported American hard and soft ware. Glittering things like glass beads, tinsel, cheap jewellery particularly please them. (Opposite) Rice terraces at Bontoc. They are famous throughout the Philippines for they are cut out of the mountainside and strongly reinforced with timber.







George D. Aked



Toni Muir

*Pile village in the southern Philippines. The coasts are patterned by beaches of white coral sand and the interior of the less populated islands are thickly forested. The northern Philippines are less wooded. All alike have a rainy season from March till July. This native of Bontoc wears a straw vest to keep off the rain*

Borneo and, further on, Australia; and, on her flank, to operations through Indo-China.

The Japanese are well aware of this. Their swarms of fishing craft, some of which would be most useful as auxiliary light warships, have for years been building up marine charts of the narrow waters: these charts must now be the best in the world.

#### THE FILIPINOS

The Filipinos are akin to the Malays. They are short, have straight black hair, prominent cheek-bones, eyes slightly slanting and flat, wide nostrils. Their graceful carriage is due to the carrying of bundles on their heads. The Mestizos, who are mostly found in Luzon





George D. Aked

*The prows of outrigger canoes in the southern islands are elaborately carved and coloured, in designs linked up with native superstitions and sea lore*

and Visayas, have lighter skins and Spanish characteristics. In the north, the mountain provinces produce a hardy race. Till about fifty years ago they were head hunters, and some skulls can still be seen on remote village fences. Baguio is the trading post and capital of the mountain provinces. It is also a summer resort for the wealthy, with hotels and private villas in the hills surrounding the town. Market days are colourful. The Igorots, as the mountain people are called, bring in their hand-woven cloth, produce of their own lands, and their dogs, which are eaten and considered a delicacy.

The everyday dress of the women consists of a cloth wrapped round their waists like a sarong and a cotton blouse. Some of them wear loose ankle-length cotton chemises. For special occasions, a skirt with a tail, a starch-stiffened net blouse with vast sleeves and a pleated triangular shawl of the same material

are worn. These are generally in bright colours and representations of birds and flowers are sometimes embroidered in glass beads. The men wear loose short coats, which button up to the neck, and white cotton trousers. In the south the Malayan influence predominates, and natives of Jolo wear turbans and sarongs.

The general character of the Filipino is one of light-heartedness. They are courteous, very hospitable and loyal. Children are taught from infancy that respect is due to their elders. The customary greeting when meeting older people is a slight bending of the knee and the smelling of the respected person's outstretched hand. This custom may have been derived from the Spanish habit of hand-kissing. Bright and gaudy things attract them; vivid calendars and pictures adorn the walls of their houses; violent-coloured paper flowers are placed in vases and jars. The Fili-



Toni Muir

*Up this street, leading to 'the Luneta', Manila's main square, the author went to school. Today the horse-drawn calesa is overtaken by taxicabs, like those of London—but much cheaper to hire*

pinos have an impish sense of humour, not malicious but rather childish.

The principal diet is rice and fish, the latter being fresh or sun-cured. Soup made of vegetables and portions of fish makes a delicious dish. Dried horseflesh soaked in coconut vinegar is a common meal. A curious food produced by the natives is duck eggs that have soaked in brine for months. When these eggs are opened the salty juice is drunk and the already formed duckling and contents are eaten. Locusts, which most Europeans regard as pests, are a great delicacy to the Filipinos. Fruit and vegetables are abundant. The mangoes are said to be the best in the

world. Strawberries are cultivated in the mountain provinces, but have not the full flavour of English ones. Alak is the native brew, made from rice.

#### ECHOES OF OLD SPAIN

Through the past four centuries the Filipinos have absorbed many Spanish customs which were suited to the relaxing climate. The traditional *mañana* of Spain came easily to the pleasure-loving people. The churches attracted great crowds, some of the worshippers treating the steps as a fair-ground, selling candles, fruit and sweets, and sometimes even toys for the children. No sacrilege



was intended, for their belief was in an ever-loving God and He could see that no profanity was meant. Roman Catholicism is really taken seriously, and the rites laid down by the Vatican are fully observed. In one of the districts of Manila, every year during Holy Week a distressing sight can be witnessed. The chosen few re-enact the sufferings of Our Lord by having their backs flagellated with whips. Great bloody weals appear and the stricken slowly walk into the sea, the ablutions being a sign of soul purification.

The custom of accompanying the young unmarried girl with a chaperone is slowly dying out. Some of the old houses still have iron-grilled windows and, during the early days of American occupation, young men could be seen whispering to their sweethearts through the bars. A native tradition is observed every first of May. In the evening children under twelve years old are dressed in white with garlands of flowers round their heads and necks. Carrying lighted candles they parade round the quiet streets singing religious and native songs. These songs are plaintive with a moaning refrain.

#### MOVING WITH THE TIMES

The principal means of conveyance is the *carromata*, an open-sided cart with a tarpaulin covering, drawn by a horse or a *carabao*, the water buffalo. The *calesa* is a more luxurious horse-drawn vehicle with padded seats for two people. The Americans in the provinces have introduced local bus services which are now taken for granted, but at the start the natives were frightened and, owing to the unaccustomed joltings and swayings over bad roads, were car-sick. Even now some of them prefer their local horse-drawn carriages. Most people of any standing have some sort of a car, from a light Ford to a Packard. The trains on the main island of Luzon have several air-conditioned first-class carriages. The third-class have open-sided compartments with wooden seats, having ample room for the bundles and baskets of livestock which accompany the passengers.

#### DEVELOPING WEALTH

The exports of the Philippines are mainly agricultural. The chief product of the north

is gold. The central plains of Luzon and the islands further south export hemp, tobacco, sugar and rice. Some of the sugar companies have laid down casks of rum as an experiment. Mindanao, whose people are Mohammedans, has not yet been fully explored. Manganese ore has been found there and the U.S.A. sent some technicians to discover if the mines could be run profitably. Pearl fishing, once a flourishing industry in the Palawan Islands, has declined since the production of cultured pearls by the Japanese. Mindoro, the third largest island of the group, has valuable deposits of sulphur, iron ore, gold and petroleum.

#### ISLAND LIFE

The forty-eight provinces have different dialects and the south cannot understand the north. Spanish used to be the general language but, as a result of American education and trade, English is now more widely used. Tagalog, the dialect of Rizal province whose capital is Manila, was decided on as the inter-insular tongue.

Cock-fighting is still popular in the Islands. It is quite a common sight to see a man with a cock under his arm stroking the glistening feathers and talking to his pet. Attempts have been made to have this pastime abolished.

Most of the houses are built of wood and thatched with nipa, a species of palm. Wealthier homes are of wood and cement with mother-of-pearl window-panes and centre patios after the Spanish style. In these, usually surrounding a fountain, palms and scented herbs are tended. Americans have imported wire screens as a protection against the multitudinous insects that abound in the Islands. Along the shores in secluded bays and creeks, houses are erected on piles with planks as common passageways.

The Philippines are bound to play an important part in the balance of power in the Pacific. With the Japanese cries of *Lebensraum* threatening the peace-loving Filipinos private opinion has veered round to a continuance of American protection. Whether this opinion is maintained and the revision of independence is considered by the United States only time can tell.

# A Tale of Pirates

by PHILIP GOSSE

*To clear the seas of pirates has been one of the historic tasks of the maritime nations. Mr Gosse, author of The Pirates Who's Who, describes some of the more notorious sea adventurers of the past, their prizes and victims, and the just fate that (sometimes) overtook them*

ONE evening, shortly after the rescue by the Royal Navy of the British prisoners on board the *Altmark*, 'Lord Haw-Haw' might have been heard over the wireless commenting on this 'international outrage', working himself up to a white heat of indignation and roundly accusing our navy of being no better than a gang of pirates. Then, as if to clinch the matter, he—so I am told—called as evidence an English writer, the "World's authority on piracy"—Philip Gosse, who had once written the following damning words: "The English were the greatest race of pirates that ever lived".

And so they were, and no maritime nation worthy of the name ever failed, at its birth, to be anything but piratical.

No doubt piracy began on some rocky coast which provided safe hiding-places close to a sea route used by coastal craft. Captain Henry Keppel, a great hunter of oriental pirates in the 19th century, said: "As surely as spiders abound where there are nooks and crannies so have pirates sprung up wherever there is a nest of islands offering creeks and shallows, headlands, rocks and reefs—facilities, in short, for lurking, for surprise, for attack, for escape".

The very cradle of piracy was probably the Mediterranean, and piracy is referred to by Homer as just an ordinary and in no way disreputable calling.

It was in the Mediterranean that a piratical hold-up took place in the year 78 B.C. which might well have altered the history of mankind. That was when a wealthy young Roman patrician named Julius Caius Caesar was captured by pirates in the Aegean Sea on his way to Rhodes—and turned the tables on his captors by escaping and afterwards having them all executed.

Piracy continued in this inland sea until

120 years ago, when the formidable Barbary pirates were finally exterminated by concerted international action. Thus came to an end the 'Scourge of Christendom', when, under such famous leaders as the brothers Barbarossa, the corsairs of Barbary for several centuries plundered Christian ships and dealt in Christian slaves.

With some of the best pirate blood in their veins, Viking, Norse, Danish, Saxon and Norman, it was not to be wondered that the English grew in time to be masters of the craft of piracy.

It is not until the early part of the 15th century that we begin to learn the names of individual English pirates, like Harry Pay of Poole in Dorset, who combined piracy with merchant adventuring. So successful did he become in the latter profession that the name 'Arripay' came to be hated and feared all along the north coast of Spain. His worst crime, in the Spaniards' estimation, was his theft of the Holy Crucifix in the Church of Santa Maria of Finisterre.

During the reign of Henry VI piracy became so prevalent that the English Channel was no longer safe, even for English ships, from the pirates who had headquarters all along the coast from Poole to Fowey; such aristocratic families as the Killigrews of Cornwall were deeply and profitably involved in the business. So dangerous had travel by sea become that it was actually cheaper to send goods from London to Venice by the overland route, up the Rhine and across the Alps.

Queen Elizabeth, though severe on local pirates, was inclined to be indulgent towards those of her subjects who ventured further afield: indeed she would occasionally invest money herself in one of their ventures, particularly when the victims were likely to be Spaniards in American waters.





From 'The Pirates Own Book', Philadelphia, 1842

*The pirate-loving public has always associated 'Walking the Plank' with piracy. In fact, reference to this practice except in fiction is almost unknown in the history of piracy*

One of the principal recruiting centres for the 'trade' was Newfoundland, where West of England fishermen, who were of course highly skilled sailors, could be got to enlist and 'go on the account': that is, receive no wages but get a share of any plunder they took.

Perhaps the greatest resort of European pirates outside Europe was the island of Madagascar. Defoe, under the pseudonym of 'Captain Charles Johnson', devoted a whole volume of his *History of the Pyrats* (1726) to this remarkable brotherhood of freebooters. Here, in safe retreat, yet placed so as to be able to prey upon the shipping to and from the East, the more successful and reckless of the pirate commanders lived and played the part of petty kings.

The most famous of them all, the great Captain Avery, known to an admiring public as 'Long Ben'—"the flower and pattern of all bold marriners" or the 'Arch-pyrat'—was for a while a Madagascar king. Defoe took him for hero in the *Life, Adventures and Piracies of Captain Singleton*.

Avery was a Plymouth man, born in 1665,

who turned pirate on the Guinea Coast and later on settled at Madagascar. His most notorious exploit, and one which took the public's fancy, was his capture in the Red Sea of the *Gunsway*, a large ship belonging to the Great Moghul. On this occasion Avery captured 100,000 'pieces of eight', as well as several high officials of the Moghul's court who were making a pilgrimage to Mecca. But, best—or worst—of all, he was said to have taken the beautiful daughter of the Moghul and to have carried her off to Madagascar, where he married her and reigned in royal state.

These 'Kings' of Madagascar were an amazing collection of fantastic figures. There was the wealthy Captain James Plantain, a white man born at Chocolate Hole in Jamaica. He never travelled unless fully armed and accompanied by a body-guard of twenty armed natives. He owned a large tract of land and was known as the King of Ranter Bay. He was greatly loved by his coloured subjects and would occasionally make raids on the cattle of the neighbouring



From Charles J. G. Jones's *General History of the Lives and Adventures of Famous Highwaymen*, 1734

Richard Smith

Next to Captain Kidd, Captain Avery is the most famous of pirates. Here he is in the act of capturing the Great Moghul's ship and lovely daughter whom he carried off to Madagascar to share his royal throne





From 'Histoire des Aventuriers et des Boucaniers dans les Indes', 1744

Rischgitz Studios

*The Buccaneers plundered Spaniards in American waters. Mostly runaway English, French and Dutch sailors, they originally settled in Hispaniola and derived their name from their custom of preparing smoked beef or boucan, as is shown in the above engraving*

kings. He had a number of wives, whom he dressed in "the richest silks and some had diamond necklaces".

One of the most picturesque of pirates was the famous Welshman, Captain Bartholomew Roberts. His brilliant, if brief, career, was off the west coast of Africa. He was remarkable, even among a remarkable fraternity, for several things. He drank only tea, and was thus almost the only known teetotal pirate; he was a strict disciplinarian and on

board his ships all lights had to be extinguished by 8 P.M. Any of the crew who wished to continue drinking after that hour had to do so upon the open deck.

Roberts would allow no women aboard his ships: nor did he permit games of cards or dice to be played for money, for he strongly disapproved of gambling. Being a strict Sabbatarian, he allowed the ship's musicians to have a rest on the seventh day.

He must have been a striking figure when



From 'Historie der Engelsche Zee-roovers'. Amsterdam, 1725

*Women did not often take to piracy but, when they did, were more blood-thirsty than the men. Anne Bonney (left) and Mary Read (right) were notorious. Both ended their careers when convicted of piracy at Jamaica in 1720. (Opposite) Another famous woman pirate was the Chinese widow Ching: disciplinarian, hand-to-hand fighter, born organizer and skilful naval commander: a woman who would have made her mark in whatever profession she entered*

dressed for action. A tall, dark, handsome man, he used on these occasions to wear a rich damask waistcoat and breeches, a large red feather in his cap, a gold chain round his neck from which dangled a big diamond cross that he had stolen from a Brazilian bishop. For arms he carried a sword, and two pairs of pistols which hung by a silk sling from his shoulders. His favourite flag depicted a full-sized human skeleton holding a sword in one hand and a rummer, or glass, in the other.

In 1721, after capturing over 400 ships, Roberts was killed fighting on the deck of his ship the *Royal Fortune*.

They were a strange mixture of human trash, those pirates described by 'Charles Johnson': Major Stede Bonnet, wealthy landowner of Barbados, turned pirate for no better reason than "a Disorder of his Mind, occa-

sioned by some Discomfort he found in the married state"; Captain Edward Teach, best known as Blackbeard, "infested the American Seas, and was one of the most bloody Disposition". He used to go into action with lighted squibs in his hat and thought it a good joke to fire off his pistols under the dinner-table to startle his guests.

But it was not men only who took to piracy. Two women, Anne Bonney and Mary Read, both became famous and both proved themselves as bloodthirsty as any man pirate, and both ended their careers after trial at Jamaica.

By the beginning of the 18th century piracy in North America had become a flourishing and well-organized business, with depots and agents at most of the ports, from Salem in the north down to Charleston in South Carolina,





*From 'History of the Pirates of all Nations', 1837*

to which plunder was brought to be sold from the Atlantic, Pacific and Indian Oceans.

The 19th century opened with every encouragement for piracy in the West Indies. The American Revolution had left thousands of so-called privateersmen without employment, so that during the twenty years' struggle between England and France which culminated in 1815 these unemployed sailors once more sailed as pirates, though most of them were more concerned with obtaining plunder for themselves, no matter from which side it came. When at last the war ended, these thousands of seamen were out of employment and formed just the material that makes a pirate. They were largely the scum of the rebel navies of the revolted Spanish colonies and the riff-raff of the West Indies.

Meanwhile across the other side of the South Atlantic a new and sinister figure had appeared. Travellers began to talk in apprehensive whispers of a pirate ship called the *Black Joke*, commanded by a particularly cruel and bloodthirsty villain, a Cuban, Benito de Soto, who not only plundered and sank every ship he could capture between St Helena and the Canary Islands but murdered crews and passengers as well.

Retribution, however, was awaiting the commander of the *Black Joke* at Gibraltar, where he was arrested when living in disguise, dressed in "a white hat of the latest English variety, silk stockings, white trousers and a blue frock-coat. His whiskers were large and bushy."

Sailing ships to the East ran the risk of meeting other pirates than those frequenting

the West Coast of Africa, and those who had their headquarters at Madagascar.

The Red Sea had been a stronghold of Arab pirates from time immemorial and maps of the Persian Gulf still show the 'Pirate Coast'. There were, too, the Malabar pirates, whose strongholds were in the creeks and harbours along the Malabar coast, running down the west coast of India between Bombay and Cochin. These formidable pirates were for many years led by the heads of the Mahratta family of Angria, who employed many Europeans, mostly deserters from the East India Company.

Needless to say, China had its pirates centuries ago, and may quite well be the first as well as the last country to practise this ancient trade or calling. The Japanese, too, were successful pirates, and in the Middle Ages preyed upon their rich neighbours on the Chinese coast. In those days Japanese pirates worked in large fleets and wore standardized uniforms of red coats and yellow caps. Sometimes they would land and march many miles inland to plunder towns, and in battle each man carried a sword in either hand. One very famous Japanese corsair, Yajiro, was a missionary of the Church of the Far East. He had been converted to Christianity by St Francis Xavier at Malacca. In 1549 he accompanied the saint back to Japan, as pilot on a ship called the *Thief's Junk*. When Xavier left Japan he installed Yajiro as head of the Church he had founded there, but the Portuguese priests were so jealous of the Japanese convert placed over them that Yajiro resigned his charge in disgust and returned to piracy. He was eventually killed in a raid on China.

The long history of Chinese piracy contains many famous names, but none more famous than that of Koxinga, the most celebrated pirate who ever cut a throat in the China Sea. He was the second of a long and distinguished family of pirates. How often do we find talent for piracy, like that for the stage, transmitted from generation to generation!

Koxinga II not only commanded but owned a large and powerful fleet of war junks and for many years controlled practically the whole trade of the south-east coast of China. Nor did he plunder only Chinese ships and

towns but those of the Dutch East India Company as well.

I must mention one other Chinese pirate, this time a woman; the widow Ching, relict of an admiral who was himself a thorough-going pirate commander and met a well-deserved death in the early part of the 19th century. She did not allow her grief to master her, but at once assumed supreme command of the six squadrons of junks which had become her property. Each of these squadrons flew a flag of a different colour, yellow, red, green, black, blue or white. Each was led by a lieutenant who was known by some nom-de-guerre as 'Bird and Stone', 'Scourge of the Eastern Sea', 'Jewel of the Whole Crew' and 'Frog's Mouth.' During Admiral Ching's lifetime Mrs Ching had commanded the senior squadron which flew a red flag.

For several years Mrs Ching plundered, burnt and murdered up and down the coast in open defiance of the Government, who despatched fleet after fleet to capture or destroy her gang, with no success. Eventually diplomacy succeeded where force of arms had failed, and she and her crews surrendered on their own terms and received the Imperial pardon. She ended her days in comfortable obscurity as head of a big smuggling combine.

For all practical purposes piracy may be said to have ended with the close of the 19th century, with the one exception of the pirate stronghold of Bias Bay in China, where a somewhat decadent form of piracy is still carried on. The 19th century also saw the end of the bloodthirsty pirates of the Malay Archipelago, who met their match in Rajah Brooke of Sarawak, and Captain Keppel of H.M.S. *Dido*.

A few white pirates, largely criminals who skulked in out-of-the-way islands and atolls, survived for a while in the Pacific; such men as 'Paunchey Bill', 'Joachim Ganga', 'Paddy Coney', 'Joe Bird' and the notorious 'Bully Hayes'. These offscourings of civilization, escaped Australian convicts and runaway sailors, shared with the missionaries the task of instructing the simple natives of the South Seas in the ways of white civilization.

Piracy had had its day and died a natural death, unregretted and unmourned.





*Barnaby's*

Who shall carry the baby? Young Jafar, from Iran, wonders whether he was wise



*Wide World Photos*

The Maori mother seems as happy as her youngest perched on her shoulder





*Toni Muir*

A Mexican baby is not so sure his problem has been comfortably solved



*Black Star*

A portable cradle with the finest decorations: the Red Indian mother smiles with pride





*Toni Muir*

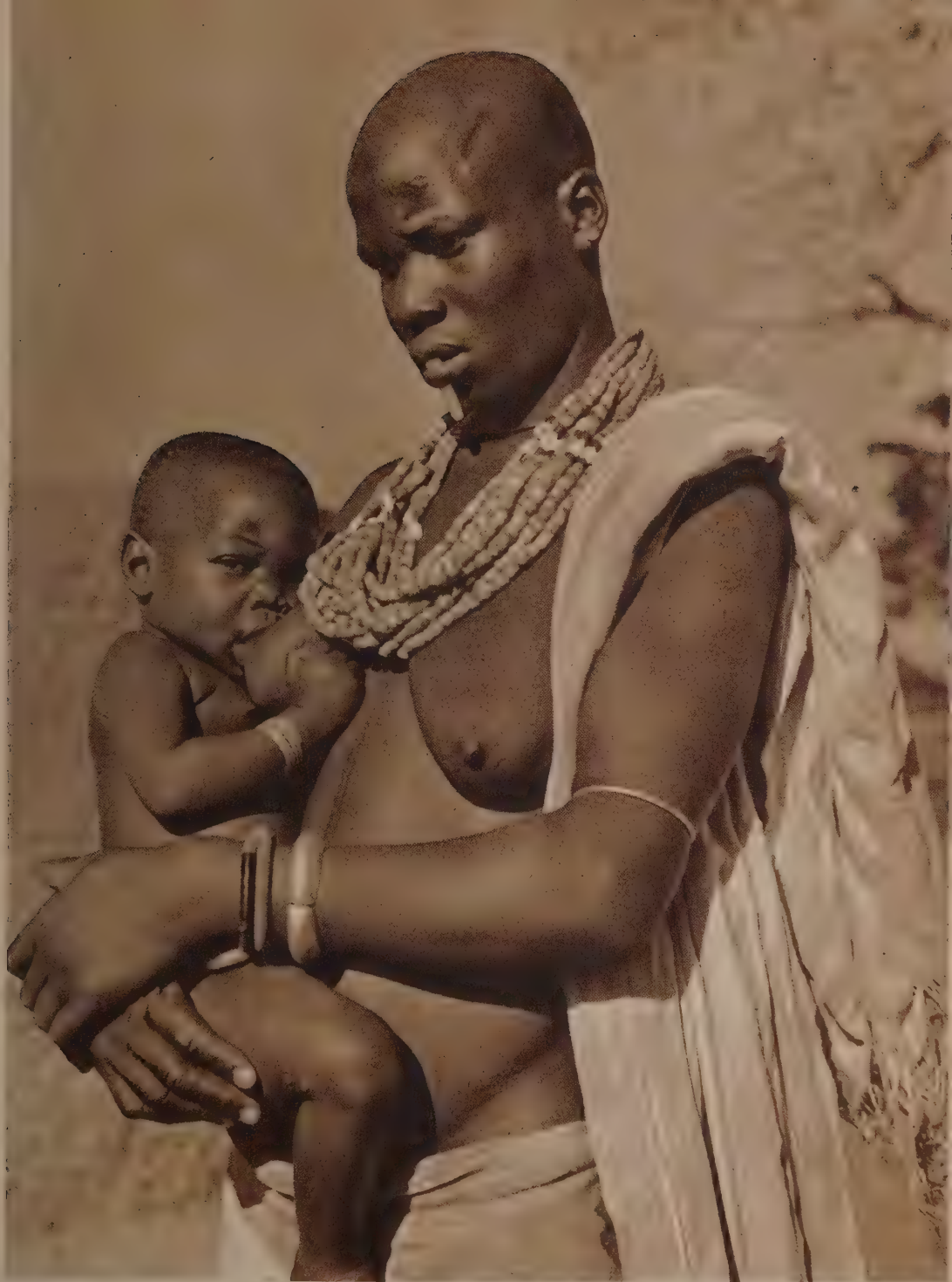
Young Indo-China thinks these trips with Mother go too far sometimes



Toni Muir

If you're firmly attached to Mother, does it matter if you show your figure ?





*Toni Muir*

Even in Africa's barbaric setting, young motherhood holds all its dignity and mystery



*Paul Popper*

The Indian baby seems like a tiny brown idol as it rides the family camel





Sir John Russell

# Collective Farming in Soviet Russia

by SIR E. JOHN RUSSELL, D.Sc., F.R.S.

*The author is Director of the Rothamsted Experimental Station and has had wide opportunities of studying comparative methods of modern agriculture, in the course of which he has made a series of visits to the U.S.S.R. He discusses here the scientific side of collective farming in European Russia and the response it meets with from the country people, a group of whom is shown above*

COLLECTIVE farming was started in Russia about twelve years ago as a compromise between the theoretically perfect system which the peasants would not work and the theoretically objectionable system which they preferred. In principle it is simple. The whole of the farming land of the village is vested in a selected group of peasants known as the 'Collective'; if they had any agricultural property such as farm animals, implements, seed, etc., they had to bring it in to

the common stock. New members can be admitted, though some contribution is required, and some period of probation is usually necessary.

The member of the Collective is assigned a house and a fair-sized piece of ground; about half an acre in the more fertile regions, up to about two acres in the less fertile districts; he keeps this as long as he remains a member of the Collective, but he cannot sell it, he has no proprietary rights. He is (or was before

the war) allowed to possess one or two cows, a breeding sow, and some chickens. On this little holding he may himself work, and his wife and family, but he may not employ anyone for wages.

The management of the farm is in the hands of a Committee elected by the members themselves, presided over by a Chairman, who is also in principle elected, but may have little knowledge of farming; the Chairmen seem to change fairly frequently. No wages are paid to the workers, but they are given a share of the produce. Certain operations are regarded as a day's work, or a 'labour day', e.g. the sowing of so many acres of land, or the milking of a certain number of cows. There is no limit to the amount of work a man can do, and if he manages during the day to achieve more than one 'labour day' of work, he can do so; many, in fact, do up to 400 'labour days' in a year, and some, the so-called Stakhanovites, do up to 800; this is

regarded as very meritorious; the average in 1937 was 195.

At the end of the season the total produce of the farm is estimated, the various State and other charges are paid, and the balance is shared among the members in proportion to the number of their 'labour days'. During the year, of course, there are advances to enable the people to live. This piece-work basis, and the glorification of the best workers which is so marked a feature of modern Russia and was particularly striking in the Moscow Exhibition, is a great moving-away from the old slogan "To each according to his needs, etc.", but change is rapid in Russia. A new basis of payment was being discussed in the press in 1939; it was proposed to modify the present rate of distribution according to labour days, and to give higher rates to those farms that had obtained a greater harvest, thus giving still more to those that had done well.



S.C.R.

*Harvest combine at a collective farm in Azerbaijan which cuts, threshes and bags the grain. It is much used in regions of wide open spaces where hot dry weather can be counted on*



## COLLECTIVE FARMING IN SOVIET RUSSIA

It is difficult to give any figure showing what percentage of the total production is retained by the members, because of the variation in amounts required for the other charges. The direct Government demand for grain, potatoes and milk is about four or five per cent of yields fixed by law and must be paid, whether these yields are attained or not; the risk of the season thus has to be borne by the 'Collective', not by the Government.

The Motor Tractor Station, the central body that hires out tractors to farms not possessing them, charges a percentage of the grain actually obtained (in some cases three per cent) but a flat rate for potatoes, *e.g.* 2½ cwt. per acre. Other calls are for capital developments, insurance, seed, old and sick people, day nursery and crèche, etc. All these charges have to be met first, and then the balance is shared out. At one typical Ukrainian farm the daily pay had for several

years averaged about 4 lb. of grain, 20 lb. potatoes, 10 lb. hay, 5 lb. vegetables, a little honey and a few apples, and one rouble, roughly the equivalent of about 2½d., in cash; the 1937 average for all farms in the U.S.S.R. was 10 lb. of grain and 0.9 rouble, worth altogether about the price of 5 lb. of black bread.

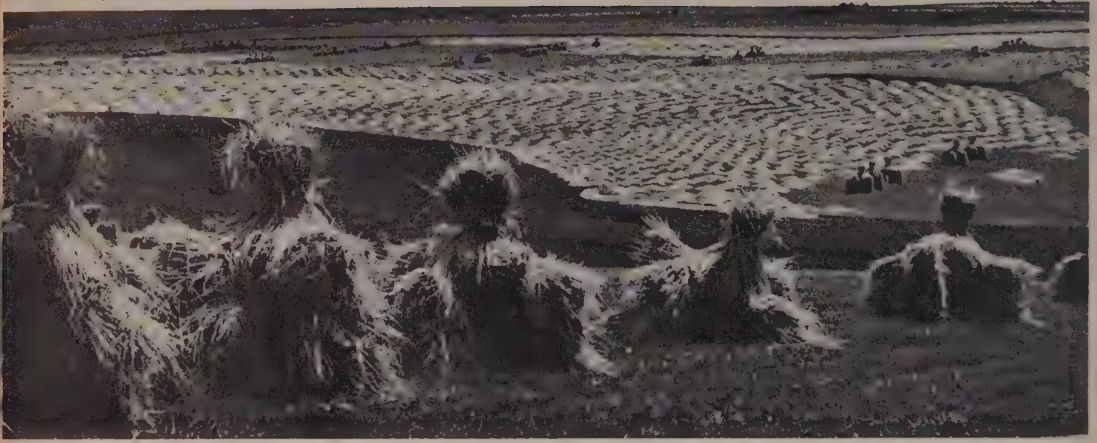
These quantities have to be multiplied by the number of labour days put in, and all 'advances' then deducted; the peasant's final share is thus determined. He can either eat or sell the produce, or hand it to the so-called 'Cooperative' to sell. In addition, he has whatever he can get from his own piece of land: milk, eggs, pork, etc.; actually a considerable proportion of the livestock of the U.S.S.R. is owned by the individual peasants.

Some compromise has always to be made between the requirements of the Collective farm and of the land held personally and there was a tendency for men to put in too little



*Pictorial Press*

*A usual mode of threshing on another collective farm. It can be done after the harvest when the pressure of work is over for the grain keeps quite well in the ricks*



S.C.R.

*(Above) Ukrainian wheat, cut with the reaper, waiting to be gathered up into stooks, as in the foreground, ready for stacking*

*(Below) Moscow Exhibition, a magnificent example of modern exhibitve art and technique. Buildings were strikingly well designed and the crowd of visitors came from all parts of the U.S.S.R.*

S.C.R.





time on the Collective and too much time on their own land, which they found more profitable; this had to be stopped by a sharp law.

The number of workers employed is much larger than on an English farm and the yields are less; the value of the output per worker is probably about one-third to one-fifth of ours, hence the difference in rate of remuneration. The difference in output is, of course, due to soil, climate, systems and various other factors.

Once the farms were collectivized the way lay open to the use of machinery and the introduction of modern scientific methods of farming; previously this had been possible only on the large estates, not on the peasants' strips. Russians have a great gift of curiosity, a desire to see a new thing and to learn something about it. Bitterly as the peasants resented collectivization—and well they might, for it was at first ruthlessly imposed upon them—they became reconciled when they saw the tractor coming forward and ploughing in a day what they knew it would have taken them weeks to do.

To the Russian peasant the tractor is much more than an agricultural implement; it is the symbol of advancement, of civilization, of 20th-century science come into his own village and relieving him of hard and tedious work, all of which are lumped together in one word, 'culture': the same word as ours, but very different in meaning, just as the German word *Kultur* differs widely in meaning from both.

The tractor driver, or 'engineer' as he is called, is a great man, and if the farm owns its tractor you know it has been prosperous and must congratulate the Committee accordingly. Maintenance is—or was—not a strong point on Russian farms, however, and depreciation was considerable.

The peasant also recognizes the value of science. Even before the Revolution Russia possessed some good agricultural research stations and her scientists had made valuable contributions to the study of the soil; indeed one branch, the relation of soil to climate, largely originated in Russia. The Soviet Government greatly widened the basis of this work. The Stations were expanded. Numbers of pupils were admitted and trained to

go out into the villages as surveyors and advisers; detailed maps were constructed showing the soil types; much analytical and pot-culture work was done to find out the soil deficiencies and the best ways to remedy them. Two ameliorating agents were found to be needed in great quantity, phosphates and lime; successful search was made for deposits of phosphates.

But it was soon recognized that the weather remained the dominating factor; deficient rainfall and hot dry winds do great damage to the grain yields. At the Experiment Stations efforts are made to find some way round this difficulty. The favourite method of attacking the problem is the breeding of new varieties of wheat more resistant to drought and hot wind, or more early in ripening, than the old ones. Vavilov's great Institute at Leningrad and the corresponding Institute at Moscow are well known. One of the most striking scientific figures of recent years is Mitchurin, who bred new varieties of grapes, plums, apples and pears suitable for growth in cooler regions. Williams, who advocated a more extended use of grass, and Lysenko, who developed 'vernalization', are equally well known, but there are many others doing excellent work for their own regions.

Agriculturally Russia falls into several distinct regions. The far north is of little agricultural interest, but from Leningrad southwards is a belt of country that is typically coniferous forest where it is not marsh; the soil when cleared is acid, like many of our own northern soils, and is more suited to rye than to wheat; it grows also flax, potatoes and berries, e.g. strawberries. South of this is another belt in which lies Moscow; it runs roughly east and west but tilted to the south on the west side, and to the north on the east side. Here the native vegetation is still predominantly coniferous forest with some deciduous trees and with much marsh. The soil is less acid than further north and grows a larger variety of crops, including wheat, rye, oats, barley and apples, a popular fruit in Russia.

Further south comes one of the most characteristic regions of Russia, the steppe, a wide belt of rolling land running roughly from south-west near the Black Sea to north-



S.C.R.

(Above) *Harvester examining grain, on the borders of Siberia and Mongolia (the Altai Mountains can be seen behind). The U.S.S.R. includes many nationalities, and some peoples have only recently taken to a settled agricultural life. (Opposite) Fruit packing on a Daghestan Collective farm. Apples, lemons and grapes are Russia's most popular fruits*

Pictorial Press

east, and across the Volga into Asia. This is a region of low rainfall—about 12 to 15 inches a year only—hence is treeless and in the natural state covered with grass and other herbaceous plants. In these conditions a black soil is formed; this happens also in Canada, the United States and elsewhere; both soil and climate are suited to the cultivation of wheat, of sunflowers for oil, and in places apples and other fruits.

South-east of the steppe, but across the Volga, is an arid region of rainfall less than

10 inches, which gradually passes into the deserts of Asia. Here irrigation is necessary if anything is to be grown.

The Caucasus region comes as an abrupt change; in the valleys can be grown a great variety of crops including vines, oranges, sub-tropical plants like tea. But further south still on the Armenian uplands the conditions become difficult and infertile.

All these regions have their distinct problems, and it has been one of the strong points of the agricultural development that







*Russia Today Society*

*Worker on a Collective farm watches his 'labour days' worked out on the abacus, a simple form of calculating machine which can be used wherever the metric system is adopted*

each region has been provided with a Research and Advisory organisation to find solutions of these problems.

The Volga Steppe region is served by the Saratov Institute, which I visited in 1930, 1934 and 1939. Each time it had expanded. In 1939 the staff numbered 400, of whom 118 were special technicians and highly trained scientists; it had 3700 acres of land and 18 sub-stations; a capital grant of  $4\frac{1}{2}$  million roubles had recently been received for further expansion. (It is impossible to give any fixed value to the rouble. The official rate of exchange in 1939 was 24.80 to the £; the purchasing power varied widely with different commodities but for a range of common things stood at about 1d. to 3d.)

Opposite Saratov on the other side of the Volga lies a vast area suitable for irrigation, work on which had actually been begun,

though now it will no doubt have to wait.

These large stations deal with the big problems, but there are numbers of advisory officers who get down to the Collective farms. Saratov had nearly 500 of these people and another 500 assistants. Not infrequently the farm has its own little building called the 'Hedge laboratory' where samples of soils, manures and improved varieties of seeds are on view, along with pictures of insect and fungus pests: everywhere of course is the portrait of Stalin. One of the peasants is usually in charge of the laboratory. There were 260 such laboratories in the Saratov region, which included 52 million acres of cultivated land, nearly the area of Great Britain, yet this was only 15 per cent of the whole region—which runs almost to the Tula-Samara railway in the north, the Cossack country in the south, and





S.C.R.

*In an Experiment Station, where analyses are made to discover the requirements of the soils of the region. It thus becomes possible to advise on the nature and amount of manure to be given*

Voroneyk in the west. Areas are vast in Russia and many men and women have to be trained. The Agricultural Institute at Gorki had in 1939 no fewer than 15,000 students attending a five-year course and wishing to become 'agronomes' or other agricultural experts. An exhibit may be housed in the Party man's office: in the early days this functionary was extremely important but by 1939 he seemed to have receded very much into the background.

The peasants have a great desire for education and are proud of being able to read and write. I used my camera freely in the villages; the children especially love to be photographed. The villages seem full of children: friendly, bright-eyed, healthy little creatures—if they survive the baby stage—in spite of the dust, the flies and mosquitoes, malaria, enteric, dysentery and other troubles

in the villages; for there is usually no sanitation, though there is frequently electric light and often the radio.

In all the villages I visited the peasants spoke with pride of the increasing school facilities: they feel that the way is open for their children. Therein lies the special significance of Lysenko's rise to fame and power in the Union. He is quite frankly a peasant's son: when I visited him in 1937 at his Experiment Station near Odessa he was wearing his cap, white blouse and high boots just like any prosperous Ukrainian peasant; and his long thin face, long black hair, rather tall thin build and husky voice completed the impression. "All that I am," he told me, "I owe to the Revolution which gave me this new environment; I owe nothing to my parents and most certainly nothing to the past."



S.C.R.

*Teacher and pupil at their studies in a Russian home. The peasants have a great desire for education and the schools are full of young people desperately anxious to learn*

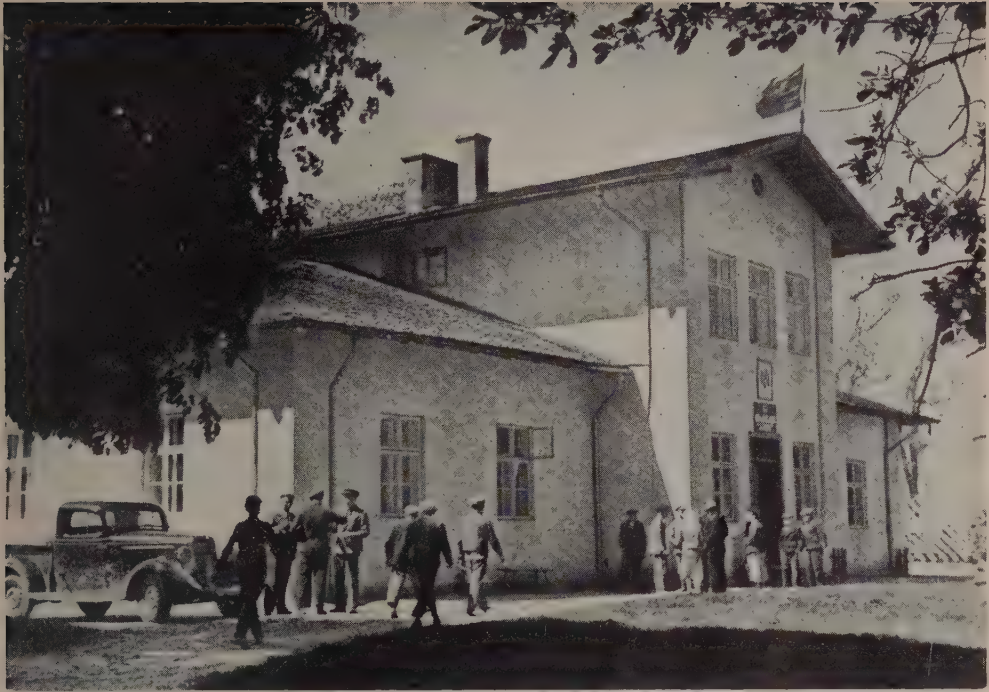
Always, in my visits to a Russian farm or Experiment Station there grows up a little crowd of followers as I go round: peasants, students and assistants; and as Lysenko speaks they hang on every word. For them he is the embodiment of an idea, the Revolution-made man; one who had started as humbly as any of them, and with no better help than was available to them, had risen first to be a Professor, always an object of respect in Russia, and then to the high honour of becoming an Academician; now he is also a member of the Government.

It had, of course, always been possible for peasant children to go to the Universities even in Tsarist times, but that is no longer remembered; what the peasants know is that their children have chances of education which they had not.

Russians are born students: the schools are full of young people desperately anxious to learn. Many of the girls tell you that they want to become teachers or doctors, while the boys

want to be engineers. In the earlier system of education adopted by the Soviet Government the schools were linked with the factories or farms, in accordance with Marxist principles; this could have led to important developments in the general level of agricultural achievement. But since 1937 a change has been made. The vocational connection has been greatly weakened or dropped; all children now receive in principle the same education without bias to any particular calling. Like all reactions this seems to have gone rather far. I met some young people who had been studying English and French for ten years, and yet could speak no word of either language: when I asked the teacher why, I received the reply, "Our education is cultural, not practical." It might be feared that an education of this sort would take the best children off the land as it did in England, and so deplete the villages of some of their best stock. The drift occurs, though offset in part by a movement from town to village





S.C.R.

*The administrative headquarters of the Collective farm is frequently a single story building, often a converted cottage. This one, in the Western Ukraine, is a more commodious type of building*

because food is easier to get there; but in any case Russia's great need is for technicians in the factories, and already the birth-rate in the cities has fallen and recruiting must be from the villages.

In all countries considerable time has to elapse between the discovery of the new knowledge or of the new thing and its use in practice. It is not uncommon to find at agricultural experiment stations yields on experimental plots considerably in excess of yields on actual farms, and Russia is no exception. The widespread feeling of curiosity and of interest in science causes great publicity to be given to results of this kind in Russia; some striking examples of good yields were shown in the great agricultural exhibition at Moscow in August 1939, by far the finest I have seen.

It is not yet clear how far the ordinary agriculture has been affected by all this scientific advance. Only about six per cent of the whole area is cultivated; the rest is

forest, untilled steppe, marsh, and, in the south-east, arid waste. The extension of the cultivated area does no more than keep pace with the increase in population. About seventy-five per cent of the arable land is in grain crops, and there is no evidence that the yields now are higher than they were: they fluctuate with the season, and while 1937 was a bumper year, 1938 was lower and 1939 probably lower still. Greater increases and improvements have, however, taken place in the so-called technical crops and in the fodder crops, and the animal population is now recovering from the terrific reductions that occurred when collectivization first began.

The really significant features about the introduction of science into the Russian villages are the welcome that has been given to it and the eagerness with which the young people take up their studies and pursue them. No one can foretell what that portends.



by SACHEVERELL SITWELL

My home is in the south-western corner of Northamptonshire, which is traversed in all directions by 'Green Lanes'. One of them, running in a straight line to Northampton, sixteen miles away, is called locally the Welsh Lane. The story is that, long ago, the Welshmen drove their ponies along it to Northampton horse fair. Only last summer, when my son was exploring its brambles in search of gypsies, who often camp there, he fell in with an old village woman to whom he began talking. She was eighty years old, and told him how her mother used to be frightened, when she was a child, by the Welsh women in their top-hats, "looking like witches," whom she met upon this lane. I am sure that this was how my small collection of engravings of Welsh costumes was begun.

The last wearers of the Welsh top-hat are said to have been two old women at a hamlet above Lake Bala, who were to be seen coming down to market as late as 1905. This was, in fact, a very late survival. In *Tenby: a Sea-Side Holiday* (1856), by P. H. Gosse (father of Sir Edmund, and a delightful painter of molluscs and sea weeds), it is written: "The Welsh women on the road, in their foreign but picturesque attire, dark-blue hose and petti-

coat, white flannel shawl, or red-and-yellow handkerchief, cap and pink ribbons, surmounted by an immense black beaver hat . . . were a new feature to us." And readers of *Kilvert's Diary* may remember the two young Welsh women in their top-hats who passed his door, at the parsonage in Clyro, upon their walk to London. They set out, every year, I think from Carmarthen, to sell flowers or vegetables in the streets of London. That was in the 'sixties.

The Welsh top-hat, in origin, must be the beaver hat fashionable in the reign of James I (1603-25), to be seen in portraits by Daniel Mytens and Cornelius Janssen.

It is interesting to compare these hats with those still worn, on Sundays, by the old ladies in the almshouse at Castle Rising, in Norfolk. This was founded in the reign of James I by Henry Howard, Earl of Northampton, and the inmates wear these hats (kept carefully in boxes and renewed every four years by a hatter in King's Lynn) and also the red cloaks of the time with the white lion badge of the Howards. The hats are rather different in shape from most forms of the Welsh top-hat, more conical or beehive-like, but the red cloak, too, was a part of some Welsh costumes.





From Rock's 'Welsh Costumes'

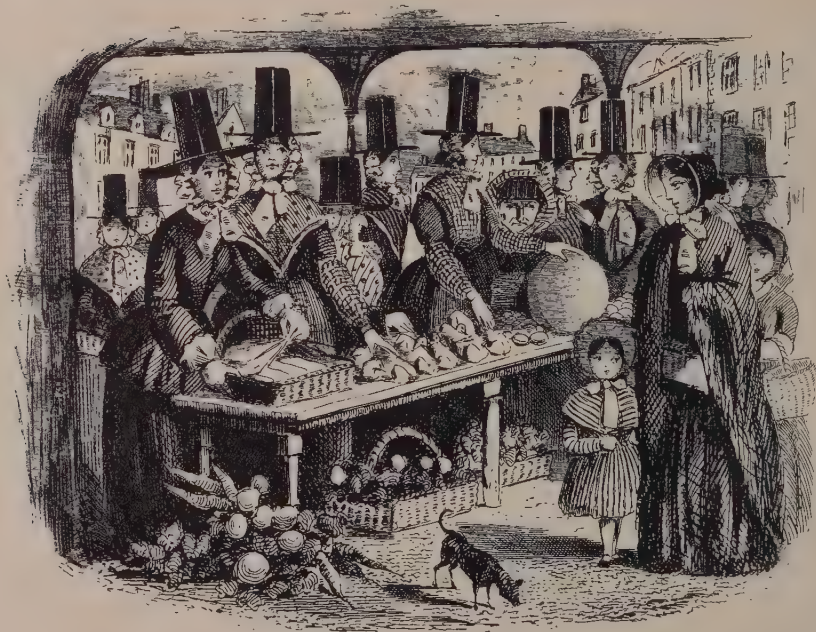
The red cloaks of the Welsh women are said to have frightened away Napoleon's frigates. But, in fact, red cloaks were a characteristic of many parts of England, and were worn, as a water-colour drawing in my possession proves, by the lace-makers in the Northamptonshire villages. The scarlet cloak worn in Lancashire is another instance. In his recently published letters, Sir Sidney Cockerell quotes Ruskin's delight at seeing a young woman on the platform at Preston Station wearing the scarlet cloak that had, once, been universal in Lancashire. This was, I think, as late as 1886. So there is plenty of evidence that the red or scarlet cloak was not peculiar to Wales.

It is remarkable, really, how few are the engravings of Welsh costumes. Three of our illustrations are taken from a little album of six plates published by Rock & Co., London. The stamped paper cover of the booklet, in Valentine style, gives its date, which, in fact, is 1853. Rock & Co. published a second, and almost certainly a third album, of these views. Two, or perhaps three, booklets identical in shape and of equal merit were published by Newman & Co. The individual engravings from both sets were printed, also, as headings upon sheets of Victorian writing paper. One

of the most charming of these, from Rock's album, is a young woman on her knees (but wearing her Welsh hat) and dressing a grave with flowers. In sentiment and execution it is worthy of the Pre-Raphaelite painter, Arthur Hughes; reminiscent, in fact, of his *Home from the Sea* in the Tate Gallery.

Looking through the contents of Rock's and Newman's albums we are given costumes in Carmarthenshire, Swansea, the valley of Neath and Pembroke. The two men, carrying coracles upon their backs, reproduced here, are in Rock's *Welsh Costumes*, and are ascribed to Carmarthenshire. According to *Wales for Everyman*, by H. A. Piehler (Dent, 1935, p. 76), there are fifteen types of coracle in use round the coasts of Britain. They are made of tarred canvas on a wicker frame. It is well known that they are used in the Aran Islands, in the Bay of Galway; but, in Wales, they are in use on the rivers Towy, Teifi, Wye, Conway and Dee. Those in our illustration are coracles of the Towy; where, again according to H. A. Piehler, they are used for salmon fishing by twelve men, whose privileges are jealously guarded and handed down from father to son.

Rock's and Newman's albums give us also



*From Rock's 'Welsh Costumes'*

*Above, we have two Welsh market scenes. Youth and Age are contrasted in the topmost of the pair. In the lower, there is undeniable fascination in the number of top-hats, rivalling the Fourth of June at Eton. We see clearly, too, the ribbons worn with the Welsh top-hats. We almost despise the Victorian lady, in her bonnet, who is staring at them*





From Lady Llanover's 'Welsh Costumes'

charming market scenes and hiring fairs, and more than one enchanting view of young Welsh women riding pillion.

Another source of information are the *Welsh Costumes* of Lady Llanover. This is an exceedingly scarce book, published about 1845 by a Welsh enthusiast. Everything that had to do with Lady Llanover had to be Welsh. I know this because a great-aunt of mine, who married her nephew, by the terms of her will was forbidden to have other than Welsh-speaking servants. Their meals, also, were ordered for them every day according to a drawn-up rota which they might not alter . . . but that is another topic.

Lady Llanover's book consists of twelve large coloured lithographs, from which two of our illustrations are reproduced. They are of varying merit; the best of them, rather naturally, being those in which the costumes are prettiest. She gives figures from Cardiganshire, Pembrokeshire, Gower (the penin-

sula of Swansea) and Gwent, which is the ancient name for Monmouthshire. Those of Gwent are the most successful. It is to be noted that in one of the pair of plates that we reproduce from her book, a different form of hat altogether, and not the Welsh top-hat, is worn; while, in the other, it has become modified in a charming way by the man's top-hat of the 'thirties so that it is almost, we could say, *en travesti*.

It is a disappointment that, so far as I can remember, there is no mention of Welsh costume in George Borrow's *Wild Wales*, published in 1854. But Borrow had no eye for this. In *The Bible in Spain* his effects come from characterization and language, not from description. Apart from what I have mentioned I know of few, if any, further sources of information. Welsh scholars could, maybe, add considerably to our list. It is a small one; but enough has been given to show the fascination of the subject.

# Fishermen of the Aegean

by ANDREAS ADOSSIDES

THE long indented coast of Greece, with its little creeks and harbours and its deep clear sea, is a good fishing ground. Every tiny island, where a few dazzlingly white houses with green, blue or red shutters pop out of a bunch of trees, has its harbour, which was, in the days of peace, the centre of its economic activity.

In the middle of the harbour were the larger sailing boats. There was the *trechantiri*, the racer, two-masted, crescent-shaped, its white hull painted in brilliantly coloured stripes, on the prow a mermaid or a mythical fish. Light, swift and elegant, she carried fruits, vegetables or wine, not bulky stuff, from the mainland to the islands. There were the large, three- or four-masted sailing boats, with countless ropes and yards, dignified and majestic, great-bellied, built to carry heavy loads. When one of these went past the lighthouse, all sails set and swelling in the breeze, too big and clumsy for the little harbour, women opened their windows and leaned out to watch and men gathered to discuss her. Who is her owner? where is she registered? whence the crew? These large boats dragged behind them one or two little dinghies, like toys when they danced behind the mother ship.

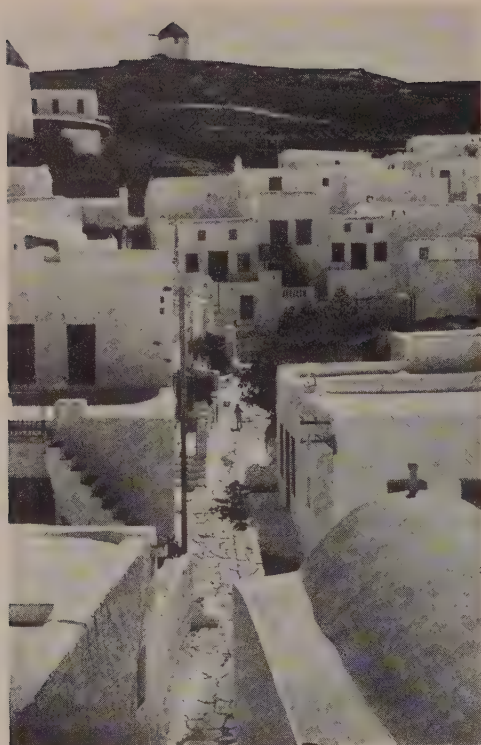
Moored to the mole were fishing boats of every size, lying side by side, with masts, sails and fishing gear neatly arranged on deck.

*Two fishermen from Turkey. Their craft is a trátak, as small trátas for shallow waters are called. Each man has a share in it and the catch is divided proportionately*









*Brian de Jongh*



*Brian de Jongh*

In another corner lay the larger motor boats unloading lemons, oranges, melons, figs and tomatoes, watched with curiosity by a swarm of dark-eyed little boys.

All round the port the nets hung from walls and railings, repaired and dried. Sometimes there was a shipyard in which were large skeletons of vessels, half-finished boats or newly-painted 'brides' as they were called. Everything smelt of hot paint, tar, fish, salt water and wine, for there were taverns round the port where sailors and fishermen sang and quarrelled.

Every morning before sunrise the little fishing fleet—only a part of the whole, for many boats stayed away from home for weeks—left the harbour. The boats crawled round the capes and shores. The larger ones scattered into the open sea in little groups. If there was a breeze, they opened their sails, some dyed red to preserve them, and the sea was full of red and white flowers.

The 'free fisherman' worked on a family basis with the help of a mate or two. His

wife would make and repair the nets and disentangle the long lines. His son, perhaps only ten years old, would work in the boat.

His boat, a small one, was always painted with brilliant stripes on a white, green or deep-blue background. In the deck were three holes: one for the hold, in the middle, and one at each end. There were four crutches, two on either side of the boat, on which the gear was stowed—a harpoon, a landing-net and the sail and mast which were unstepped while fishing. In the hold were little shelves for two or three tin plates, a black earthenware pot, rusty knives, broken forks, five or six loaves of bread, a dried octopus, the water barrel, everything the fisherman needed down to salt, pepper, matches and needles. In the middle of the hold were two or three round baskets with the line or net piled up in them.

The fishing was done along the coast and the men seldom ventured into the open sea. They would travel for weeks and months, hugging the land. When the weather was stormy they closed the hatches and let the





*Greek Legation*



*Stanford, London*

(Opposite left) *The village of Mykonos in the Cyclades. Every drop of rain, which falls only in winter, is precious. Hence the flat roofs which form the largest possible collecting spaces.* (Opposite right) *Fishermen's children having a rest; they are active helpers: they row, disentangle the nets, paint the boats and sell the fish from house to house in baskets which they carry poised on their heads.* (Left) *A trechantiri—two-masted racer—often seen in the Aegean*

waves do their worst. The peasant on shore would hold his breath to see this cockboat, now disappearing in a cloud of foam, now hanging on the crest of a wave, covered and tossed, with a little white rag of a sail sometimes here, sometimes there.

The fish were caught with small nets or with fishing lines—long ropes with three or four thousand hooks, weighted with lead plummets and buoyed at each end by a gourd which acted as a float and carried a little bell.

The big fish were caught with the *zoka*, which is four strong hooks fixed together and a whole fish or an octopus used as bait. Those who used this rowed out into the deep waters and then drifted for hours, touching the oars from time to time. Presently there would be a strong tug on the line, then another, then nothing—a ray fish, a great one, so murmured the man who knew from the shock. But the fishermen might drift along for nights without catching anything. Then suddenly there would be a mighty pull, the hooked fish with the iron in its jaws rushed right and left, be-

hind the rocks, into the deep crevices, blind with terror. And the man stuck in the prow hole, stretched the line till it vibrated and his hands bled; up and down, now on one side, now on the other, sweating and cursing till the fish was exhausted and was hauled in. As it came to the surface it beat the water furiously with its tail and the foam was red all round it.

The *dynamitiéri* (dynamiter) would search the sea till he found a shoal of fishes. Then he lighted the fuse of a stick of dynamite, or a whole bundle, and cast it into the sea. Huge columns of water were thrown high and the fish, which was usually used for bait, was suffocated by the blasts and floated on the surface—if the fisherman was lucky—or sank to the bottom.

There is a herb growing on the mountain called *flomos* which has a strong scent. Some fishermen thrust this into the fish's nest to suffocate it; then it rises to the surface.

The law frowned on both these methods. If those who use dynamite are inexperienced,

or a hitch occurs, it explodes in the air and men are blown sky-high. But apart from these dangers, millions of little fish and the plankton on which fish feed, are destroyed. Besides, only a fraction of what is killed is collected. The shock is so strong that fishing boats are blown high into the air, and migrating fish are deflected from their course and desert these seas within a radius of thirty to forty miles.

Fishermen often used the *giali*, which is a broad tube rather like a pail, with a glass bottom. One man sat in the stern and rowed while the other in the prow leaned overboard with his glass and searched the bottom. He was armed with a long trident. If he saw a fish or an octopus, he pierced it suddenly and brought it to the surface. He and his mate went many miles along the coast, the man in front giving short orders—right! left! left! left! too much! back! forward now!

The squid was caught only by moonlight, when it cannot see clearly. A ball with sharp spikes and a shining glass or piece of mirror was moved slowly along the bottom. The squid, glowing with phosphorus, crawled carefully out of its nest, then leaped on the glittering thing and clasped the spikes.

The men who used line worked at night. They never got sound sleep but stole it now and then in 'hare-naps,' as the Greeks say. At ten at night, from numerous creeks and promontories, the little boats rowed towards the shining glow-worms which were the net-boats that specialized in catching bait. The boats slipped by each other quietly with a shower of phosphorus falling away from the cut-water. The men called "Ai! ai! is it you, Panos? How did things go yesterday? Did you see Nikos? I don't like this nor'wester. Ai! Nontas! Giannis has bought a new boat. His sister's goat had a kid yesterday."

While the bait was bought there was much noise and shouting and the solitary mountains and creeks echoed.

Baiting takes a long time, three or four hours under the light of a smoky oil lamp. The line was laid at four in the morning, when the hungry fish start hunting, and was hauled in at sunrise.

The life of these fishermen was a lonely one. Some of them did not see another soul for days on end. They forgot the sound of living

speech, hearing only the plop! plop! of the sea against the hull, the grinding of the oar against the thole-pin and the waves breaking in the distance—sssh! sssh! They lit fires on the shore and roasted crabs or boiled fish on them. They covered their boat with the sail and took their nap in the hold. If a shepherd lit a fire on the mountain where they could see it far out to sea, they would gaze at it for hours. There was another human soul there!

They knew every corner of the sea round their island, the deep-crevices, the sea-weed field, the barren sand bank, the unfathomable dark hole. Their guide was some mark ashore. They even tell what they would catch, even how much.

These were the 'free fishermen'. Theirs was an unending struggle—against the sea, the winds, the damp, cold mornings, the sharks that cut their line, the dolphins and whales that played havoc with their nets, sea-gulls that gullibly devoured the fish and hook and were caught by hundreds on the line. They had to be killed and the line too destroyed.

There were also larger boats, the *tráta* of twenty to twenty-five tons with a crew of ten or twelve. She looked like a pirate galley with her long beak and brilliantly painted hull, and her long carved tiller. The captain was usually the owner and employed the crew on a sharing basis. He sat and sang in the stern so that the crew rowed in rhythm—*eyá molá, eyá lessá!*—and the twenty-four oars struck the water at the same time.

They searched the seas and when they found a suitable spot they threw their nets, which were buoyed with large cork floats, in a great semicircle. The mooring ropes were taken ashore and the crew divided into two gangs—one to each rope. They stood in file each man barefoot on the spiky rock, his trousers rolled up to the knee, a line round his waist weighted with a wooden bobbin, which he swung round the mooring rope. Then all would take one step backwards, swaying and hauling on the mooring rope, rhythmically—*eyá molá, eyá lessá!* The two gangs gradually converged on each other till they met and merged, making the net into a vast bag.

Towards the end a boat put off for the net, and two men beat the deck with drum-





Greek Legation

*Greek fishermen dragging in their nets. Each has a line wound round him weighted with a bobbin which he swings round the mooring rope*

sticks while the boat's boy stamped and shouted aboard the tráta, to frighten the fish and drive it into the pocket at the very end of the bag. The men on shore hauled faster and faster till the net was brought out with the thousands of many-coloured fish and creatures that never before saw the sun. The sea-gulls surged from the rocks, even from the ends of the sea, and suddenly filled the sky, hovering and crying and leaping on the fish. Even sticks were not enough to drive them away.

The tráta worked inshore only in the winter, for in the summer the fish migrate to the warm waters and rub their roes full of eggs on the rocks. The net, which was dragged along the bottom, would have destroyed all that treasure.

The trátas sometimes worked in groups—four or six of them were taken in tow by a motor-boat to the open sea, where a shoal of migratory fish were passing. Then the boats would lie in a wide circle, immobile, like

insects feeding on a victim and fish with large circular nets which were plunged into the water and closed when sufficient fish was caught.

In the day-time they tempted the fish with bait. In the night they attracted it and dazzled it with powerful acetylene lamps. On a calm night you could watch the brilliant points of light, all in a row, motionless, staring at you, but if it was stormy, they danced up and down, right and left.

The hired crew of these larger vessels would leave their homes for many months. They might come back for Christmas and certainly for Easter. In preparation the women would whitewash the houses and bake cakes in the big, open-air, brick ovens. The almond trees were full of blossom and the gardens of

hyacinths and irises and bees that suck honey. The air was blue, transparent, and the voices of children jingled in the distance. The sun was warm and the dogs and cats stretched themselves on the doorsteps, looking round with half-opened eyes. On such days, seamen cursed the sea.

Every day more boats arrived in the little harbour. Each had its story of miraculous fishing, of dreary barren days, of storm and sickness, of sharks and great fish. And the villages were full of men, swaying and walking clumsily, like sea-birds on land. On the market place they discussed the price of fish, the new boats, now launched, future prospects. And the taverns, with the huge wine barrels soon empty, were crammed with men who sang, with violins and dancers.

The boats left one by one, or in little groups, till one day the village was empty, like an unfurnished room, and the taverns had only a few old customers who were glad to sip their wine quietly again.







*All photographs from Paul Popper*

# Antarctic Prospect

## The Poetry of Snow and Ice

On January 25, 1942, it will be thirty years since Captain Scott reached the South Pole. These photographs were all taken during that ill-fated expedition. The one above shows an iceberg frozen fast into the sea-ice

Opposite is a grotto in an iceberg. The *Terra Nova*, Captain Scott's ship, lies anchored at the ice-foot a mile away







A blizzard drives irregular furrows in the ice

Masts and rigging of the *Terra Nova* make a strange contrast with the frozen forms around



Like giant water-lily leaves, ice floes, many carrying basking seals, cluster round the cliff

Christmas Eve: a still landscape of sea and ice illuminated by the midnight sun





# A Triangle of Devon

by L. A. G. STRONG

THOSE who come from larger lands are always astonished and amused at our British habit of giving names to natural features which seem, to them, too insignificant for notice. Dominion and U.S.A. visitors think poorly of some of our rivers—"Why," said one, "that's just a crick!"—and gape when they find that there is a 500-year-old name for a stream four feet across. The old Scots song

O gin I were where Gadie rins  
At the back o' Ben-a-chie

has fetched many a visitor, only to confront him with a brook and a hillock.

But we have to make the most of our microcosm: and it blesses us in return. What infinite wealth of detail can lie in a small space of English or Scottish or Welsh or Irish ground! A lifetime is too short to learn it. I am thinking particularly of the corner in which I grew up, an area on the southern edge of Dartmoor. You can motor across its greatest length in half an hour, and even that time flatters the distance, since the roads are hilly, and, in calculating, I have allowed you to go beyond its real boundaries.

In shape it is a rough triangle. It begins where the road from Plymouth to Tavistock emerges upon Roborough Down. Tavistock is the end of this side of the triangle, which is some eight miles long; and Princetown, with a bulge northward on the line joining it to Tavistock, is the other. Now draw a line from Princetown back to Roborough, again allowing a bulge to the south-east and south, and you have enclosed my microcosm.

Although so much of it is open moorland, it is well filled, not with people, but with interest and variety. I lived in it from 1904 to 1918, and thereafter visited it regularly every year for another eight years, and at frequent intervals since. I would not say that I know it. I know some things about it; it teaches me more with every visit: and it is the scene of many memories.

The actual villages have, of course, undergone great changes. Not one is untouched; and the one where we lived first has under-

gone such transformation that parts of it are all but unrecognizable. As it had no graces of age or structure, this does not matter very much. It had long lost its village character, and become a suburb of the town. The valley villages, Meavy, Horrabridge, Walkhampton, Buckland Monachorum, Sheeps-  
tor, have suffered from the speculative builder and the bus. Accessibility has robbed them of character and made them dormitories for city folk, and, more disruptive still, has enabled the villager to sample the delights of town without packing up and leaving the village. This has created a real problem, not peculiar to any village or district, but it will doubtless soon adjust itself. And there are signs that the outbreak of pink-roofed bungalows is being checked. So that, still, these villages keep a large measure of their ancient grace. And the older generation of villagers shows no change. There are none nowadays who, like some I knew as a boy, had never ridden in a train or gone to Plymouth: but that is a change for the better, just as the new houses are healthier and brighter than the old.

There are few changes in the landscape. The moor is not susceptible of change, and does not invite builders or cultivators, even if they could get leave to violate it. The biggest changes in my memory are the disappearance of plantations, cut down for timber in the last war—I once stared into the



Stanford, London





Will F. Taylor

*A winter view of Tavistock, showing the centre of the town. The Tavy is in the foreground, and the wall on the far side of it encloses the old Abbey grounds*

eyes of a fox in a little woodland ride that is now a garage: the raising of the level of Burrator Reservoir; and the encroachments on the moor, that only a city corporation could have power to make, in the interests of this reservoir, with the desolation of the few scattered farms and dwellings in the valley which seem to have been harmless when the level was a few feet lower, but would (presumably) have been dangerous in these latter years. They include the inn celebrated in Eden Phillpotts's *The Virgin in Judgment*, where Frosty-Faced Fogo schemed with Shillabear the innkeeper for that historic battle in the village bullring, and outwitted Parson Merle: Lowery Cot, Deancombe, Middleworth, Combeshead, places of many associations, given over for years now to weasel, snail, and owl.

Following an illness which left me able to walk only a very short distance, I used to drive out, with Farmer Jack Hillson of Dousland, along the Deancombe valley, past

Middleworth and Cuckoo Rock, and be dropped at Deancombe Farm, to make my way slowly up to Down Tor and join the able-bodied at a picnic. Farmer Jack would go on, the track getting wilder and rougher, to visit an old friend at Combeshead, a farmer who declared he would never leave the place till he was carried out feet foremost. It was well that he died just before the inexorable demands of the reservoir gave him the lie.

Down Tor, which was our rendezvous, is small and inconspicuous. Seen from the west, it lies behind Sheepstor, and the solid bulk of that southern landmark overshadows its easy conical lines. But it commands an extraordinary view of the tors around it, it is exquisitely coloured at almost all times of the year, and close to it, on the shoulder of the smaller Combeshead Tor, lies one of the most beautiful stone rows in England. The Down Tor row is not of very great length, nor are the stones high: but it runs straight, with scarcely a break, across an undulation of the

heathery ground that gives it a grace unlike that of any other I have seen. There is a small circle at its western end, and another, in less good state, at its eastern end. It is best approached from the west: but it makes an excellent bearing for a walk from Princetown via the Deancombe valley either to Dousland or to Sheepstor, and so back to civilization.

Take the laneway beside the *Plume of Feathers* inn, past a small lavatory, to the moor. Keep along the old reeve boundary past South Hessary Tor, go half a mile further, then bear south-west. Cross Drake's Leat, that early feat of engineering which once supplied Plymouth with water, by a small stone bridge, and carry on until you see ahead of you the stone row crawling over a sweep of moorland on the far side of a valley. Take a bearing, as you will soon lose sight of the stones, and make for it the best way you can. Down Tor will be due west of you, half a mile away, hidden by the shoulder of the moor. But, as I said, the most impressive approach, for a first visit, is from Down Tor. Down Tor has only one disadvantage for a picnic. You must fetch water from the valley: there is none on the Tor.

Old Jack Hillson drove me to many other places which one would have thought beyond the reach of a horse-drawn vehicle. I use that phrase advisedly, since no one could put a name to the conveyance he used. In appearance it resembled a coffin with part of the sides knocked out. Its pace, drawn by an aged and plethoric pony, was likewise funereal. But it and its master arrived at the most remote spot exactly on time. I once asked him how he managed it.

"Well," he said. "I says to myself, wat time 'ave I got to be there? Vurry gude. Then I says to myself, wat time is it now? Vurry gude. Then I reckons it out, and I drives accordin' to."

He was not an easy character to epitomize. Nor, for that matter, are many of the Devon characters. They are not inarticulate, but very unspectacular in their self-expression: not given to quickness of speech or to any remarkable wit. Their quality is shown more in a reaction to the sum of their surroundings. Eden Phillpotts, their chief interpreter, has had a unique success in drawing

them because he favours a leisurely method.

Their vocabulary is rich, not with the freedom of Mayo or Kerry, but with the unexpected use and misuse of ordinary words. It has a Biblical tinge, too. Phillpotts remains its finest exponent, leaning heavily on this Biblical strength: but, as I said, it is not spectacular, and the road to a full appreciation of it is slow. Many of those who have used it for entertainment purposes have picked up an accent merely, whereas the true Devon dialect is a matter of idiom. There are, of course, local words in plenty, some of them with an interesting origin. 'Suant' or 'suent', which means smoothly running, and can cover anything, from fluency in speech to the working of a greased wheel or the drawing of a tobacco pipe, is straight French—how come-by we can only guess. 'Arrish', for stubble, will probably not bother philologists. 'Rantacket' could mean nothing but uproar, 'crid' for curd follows a well-known law, as does 'wets' for oats, the verb 'to dwale' has a respectable ancestry, and 'dimpsey' is a pleasant word for half-light.

I have never been industrious enough to go into the bird names current when I was a boy; 'gladdy' for yellow-hammer, 'home-screech' for missel thrush, 'dishwasher' for water-wagtail, and, oddest of all, 'ackymile' for blue tit. Nor have I a clue to 'swaling' for burning the gorse off moor or pasture, or 'hookemsnivvy' for underhand or dishonest. 'Ordained' for ordered is dignified and pleasant—"Us have ordained the trap for half-past seven", or "Her've ordained the tea": and I like the odd use of 'entitled' for compelled.

"There!" said a young girl at Sheepstor once, putting a delinquent kitten in a cupboard. "You'm entitled to bide there till nine o'clock tonight."

But the visitor will not be troubled with odd words and archaisms. The only difficulty will be the accent, and the essential, or, I had better say, the central uncommunicativeness of those who use it. They will talk all right, but they won't give themselves away. Hospitable and friendly and welcoming, giving all the stranger can reasonably ask and more, they are not easy to know well. They have a habit of understatement which one does





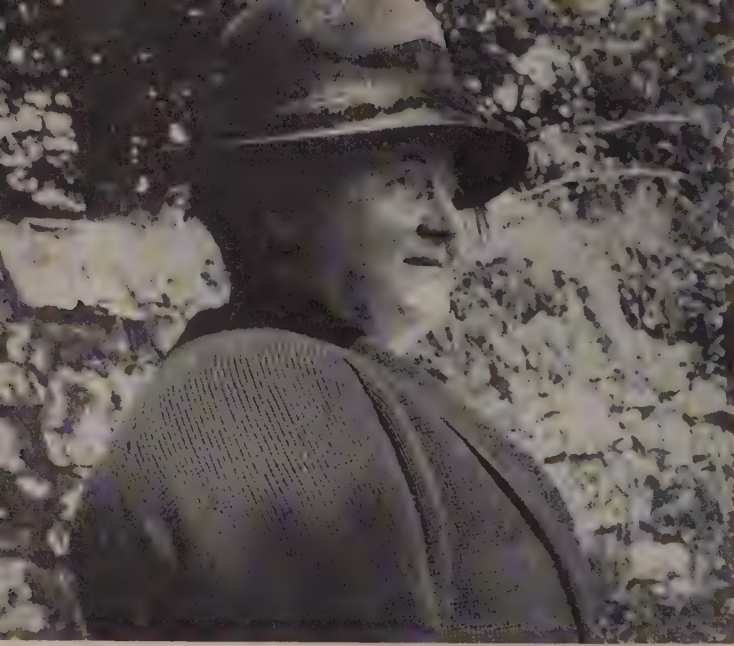
*Val Doonee*

*Sheepstor village with its surrounding tors seen from the south. Burrator is on the left. 'Hedges' in this moorland country are of granite boulders, the crannies of which are green and golden with ferns, ground ivy and lichen*

*A near view of Sheepstor Church, with the Tor above it, taken from the foot of the same road. The Bullring is behind the old cottages on the right. The third cottage was where the kitten was 'entitled' to stay in the cupboard*



*Val Doonee*



*L. A. G. Strong*

'Missus'—the famous Mrs Jack Hillson, hostess of 'Baron's'. Her local nickname was The Duchess of Dousland. This portrait was taken twenty years ago at a picnic



Farmer Jack Hillson, getting ready for a drive. He would put on his coat before letting himself be seen on the roads. In the doorway is Harry Carr, the waiter, alias Elijah, a great character whose favourite exordium was "Might as well say it as think it"

(Opposite) The old oak at Meavy. It is said to be mentioned in a charter given by Canute for the building of the church, and again in Domesday Book. It is hollow, and supported by props, but, as the picture shows, very much alive





*Will F. Taylor*

not expect of people who laugh so readily and mouth their dialect with such relish.

"If I caught en round after my Ivy," said a farmer in the train, telling of a noted misleader of maidens, "I should put me 'and 'pon en."

And a part of the world where a recognized formula, a traditional answer to a question, is held to be witty—"Ave 'ee got a match?" "Ess! my —— and your face!" can be baffling to those who do not understand it.

All of which adds up to the fact that it is very hard indeed to give a vignette of any Devon character that is more than a vignette, more than a thumb-nail sketch of some single aspect of him or her. They need the slow build-up of the novel. So I will not attempt here to describe that remarkable character Jack Hillson, shrewd, kindly, slow-moving, a

suggestion of the hippopotamus in his gait, faithful for many years and marrying his Annie at last when she became a widow, chuckling through his gap teeth, telling stories of escaped convicts or of the great blizzard or of the haunted tree now buried under Burrator, loved by everyone, unswerving in judgment, a huge aggregate of characteristics so small and unremarkable that it is hard to say, even now, why he was so remarkable and wherein lay his power.

More spectacular was his wife, the beloved 'Missus', his equal in bulk, his superior in repartee and general liveliness. She and her mother kept an establishment half farm, half inn, and it was into this that Farmer Jack married. It suited him, for he was well on in years—'getting up in years' is the local phrase—and comfortably off. His one con-



Will F. Taylor

*Looking west from the moor near Princetown—between which and Dousland there are a dozen different walks, and things of interest and beauty everywhere along them*

cern was to see that Missus did not overwork herself in her guests' behalf. She invariably did—but she liked doing it. She shared in our holidays, came with us on jaunts, fell into bogs, suffered in delighted indignation rude comments on her size, organized fêtes and concerts, and lived, through her guests, for a few months each year the fuller life she longed for, which the village denied. Jack didn't want no fuller life: the village was enough for he: but, when the fuller life was there, he entered into it and enjoyed it with the best. A group of some thirty or forty people cherish great memories of Baron's, as the place was called, that comfortable, shabby, primitive, entirely delightful resort where at all times of the year one was sure of a welcome, of enormous meals, enormous laughter, and an enormous host and hostess.

Poised on the moor's edge, Dousland on a spring evening has a quality I have found nowhere else, a mingling of kindness with austerity, of the valley's benison with the moor's challenge and the upland air. This quality the absurd and lovable old house somehow caught. One could be snug in it

without a frowst, it could open to the summer air, and cosily shut out the storms that, even in August, can drip misery and howl in crannies. Of all parts of the moor I commend this part that lies inside my triangle, and, of all centres—when normal times come back: one's walks and doings are restricted now—I commend Dousland. It is not at all beautiful, there is no village, there are no old houses. But it has (in peace-time) good accommodation for a few people, it stands on the mad stretch of line from Yelverton to Princetown, it is on the edge of Yennadon, a fine sweep of moor, and you can easily get from it anywhere in Dartmoor. Even Cranmere Pool is within a day's reach—though I do not recommend the approach from the south to any but the hardest and most patient; the miles of bog-jumping are very tiring. And one need not go far away. Between Dousland and Princetown alone there are a dozen different walks, and things of interest and beauty everywhere along them. Small things, to our friends from overseas: but enough to anchor our affections for a lifetime.





Black Star

# Malayan Background

by SIR RICHARD WINSTEDT, K.B.E., C.M.G., D.Litt.

*With the Philippine Islands (described in our last number), Malaya was brought violently and tragically into the news by the Japanese attack of December 8. This strategically important and economically productive British outpost in the Pacific is described by Sir Richard Winstedt who, in the course of 32 years, has occupied many distinguished posts in the Malayan Civil Service, was General Adviser to the Government of Johore, and a member of both the Legislative Council of the Straits Settlements and the Federal Council of the Federated Malay States. His article was, of course, already in the press when the Japanese offensive was launched*

THE Malay peninsula, southernmost point of the continent of Asia, comes into prehistory as a land bridge for Australian aborigines, Papuans and later waves of Javanese and Malays on their trek from Yunnan and central Asia down to the Malay archipelago and beyond. Trace on a map the modern ports of Medan in Sumatra, Penang and Singapore in Malaya, Batavia and Surabaya in Java, and Port Darwin in Australia and it will be clear that, however ignorant of early migrations, trade could never afford to overlook the series of land bridges from north to south. Nor yet can Great Britain and Holland neglect the strategic importance of controlling the straits of Malacca and the straits of Sunda.

Consider today, as we are all considering, the scope of the war plane, the minefield, the submarine and the destroyer and it will be clear that Malaya is one end, as Australia is the other, of a barrier easy to defend against attack from a distance, a barrier between the Far East and the West with its advance post India. Attack on that barrier could be no tip-and-run performance. It would involve the destruction of the defending fleets, the maintenance of sea communications and the capture of Singapore, which with planes and submarines alone could threaten the flank of any aggression from the east.

Between east and west Malaya has been a bridge from the dawn of the Christian era.



Stanford, London

The voyage down the Malacca straits and up the gulf of Siam was so long and tedious for sailing vessels that the northern and narrowest section of the peninsula was crossed as early as the 4th century by Indians who founded Hindu dynasties in Cambodia and carried Buddhism to China. In the northern Malay state of Kedah many relics of early international trade have been unearthed: a

Chinese mirror of the Tang dynasty (A.D. 618-907), for instance, and Baghdad coins of the 9th century that corroborate Arab accounts of voyages there for tin and bamboo.

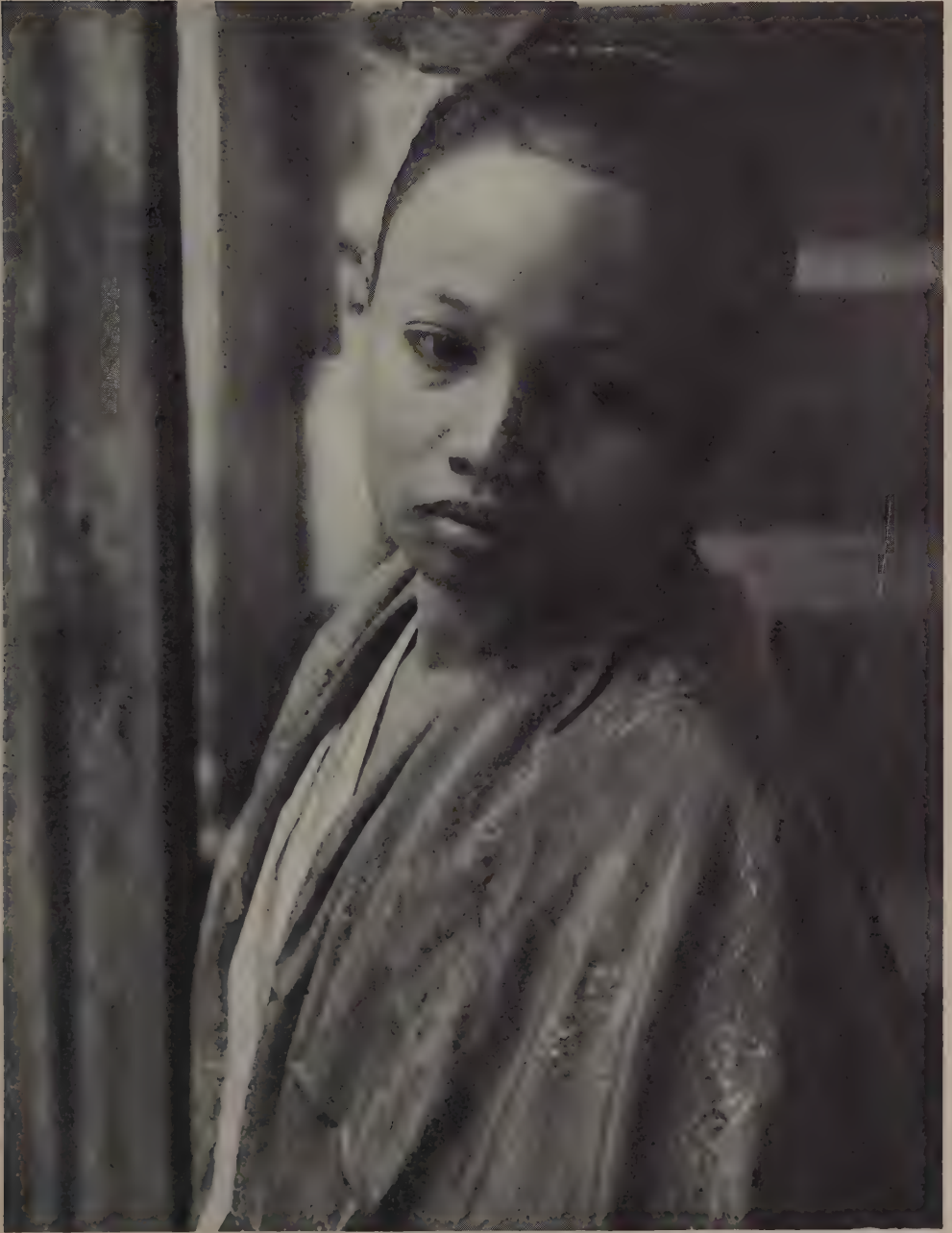
The latest theory makes the adjoining Malay state, Perak, centre of a great Buddhist empire, Sri Vijaya, that for 500 years commanded the straits of Malacca and Sunda and levying tax and toll on passing ships anticipated the piratical methods of later Portuguese, Dutch and English vessels. Sri Vijaya fell before the forces of Java and Siam. Then, about 1400, from the conjunction of three historical accidents rose Malacca, which for more than two centuries was to be one of the greatest international ports in Asia.

Sri Vijaya had fallen and left no rival; after conquering the Mongols, the new Ming dynasty was trying to develop an overseas trade for China; and Islam coming from India was carrying trade from port to port with the Koran. The new Malay port-kingdom of Malacca not only secured a large trade by accepting Islam and flattering China but was sufficiently alive to its strategic position to control the Malay peninsula and win a footing in Sumatra. At its court, Sanskrit, Javanese, Persian and Arabic classics were translated into Malay, while Moslem missionaries expounded the works of al-Jili, the orthodox mysticism of Ghazali and the jurisprudence set forth by al-Nawawi. Never again until the present century was the Malay to know such an abundant life, intellectual and material, secular and religious.

In 1511 D'Albuquerque captured the port, to become the Portuguese centre for trade with the Malay archipelago and the Far East. "I verily believe", wrote his son and chronicler, "if there were another world and a navigable route other than that we know, yet would all resort to Malacca, for in her they would find every different sort of drugs and spices which can be mentioned in the world."

Those spices attracted the Dutch, and corruption and inefficiency made Portugal an easy prey. From 1641 down to 1795 Malacca was ruled by the Dutch, who however kept Batavia in Java as their capital. While the France of the Revolution and of Napoleon was at war with England and Holland, England administered Malacca and tried to transfer all its trade to Penang, which our





*Paul Popper*

*A village girl, with characteristic Malay features*



*Paul Popper*

*Malayan Information Agency*



(Above) Singapore river with Chinese sampans that carry passengers and goods to and from the ships in harbour half a mile away

(Left) Raffles Museum, Singapore, notable for its prehistory department and ethnological collections. (Opposite) One of Malacca's old-world streets, with the fast vanishing gilt and vermillion signboards





*Dorrien Leigh*

East India Company had leased from Kedah since 1786 and had turned into a most flourishing port, thanks to a policy of free trade forced on it by the refusal of the British Government to grant the Company naval support.

Napoleon beaten, 1818 saw nothing left to the British in the Malay archipelago except a "dreary derelict" pepper station at Bencoolen in Sumatra and nothing in the Malay Peninsula except Penang and a tract on the mainland opposite, called Province Wellesley after the future Duke of Wellington. But Great Britain possessed a more important asset in a servant of John Company, Thomas Stamford Raffles, who was at once an unscrupulous

enemy of the Dutch and Dutch trading monopolies and an idealist and philanthropist, determined to abolish slavery and eager to educate and help the Asiatic instead of merely exploiting him. It was he who had been mainly responsible for the expedition that conquered Java, a colony which had now been restored to Holland. In 1819 by practice as sharp as that of the Dutch he rented land at Singapore for a factory, installing a puppet Malay Sultan to get a good title to the nucleus of what by 1824 became a "British Gibraltar in the East" and along with Penang and Malacca formed the colony known by the prosaic name of the Straits Settlements. Down to 1858 this colony was under John



Ralph Keene

*Chinese hawker of house-brooms, wearing the sun-hat so often pictured in Chinese art*

Company and then under the India Office, that is, always under governors who not only thought in Hindustani and rupees against the Colony's Malay and dollars but could not be bothered with new developments on the periphery of their sphere of interest.

In 1867 the Straits Settlements were transferred as a solvent concern to the Colonial Office, and a change began. Ever since the fall of their suzerain Malacca, there had been anarchy in the Malay States. Kedah had fought Perak at the behest of Siam and Selangor had fought Kedah and Perak. There was extortion by Malay chiefs on every river, with tax-gatherers at the estuary of every tributary.

The 19th century saw at various dates five claimants to the throne of Negri Sembilan, two to that of Pahang and three to that of Perak. Whole villages fled by night from anarchy and oppression into the British colony. The discovery of tin-fields caused a large influx of Chinese miners, whose clan fights not only added to the general disorder in the Malay States but broke out also in the streets of Penang and led to piratical encounters in the straits of Malacca.

The Chinese merchants of the colony begged the government to intervene and protect their most fruitful field for investment. Still reluctant to interfere, the British Govern-



ment felt at last that it must use its influence to rescue the Malay States from ruin. In 1874 it put Residents in Perak, Selangor and Negri Sembilan, and (broken by the murder of the first Resident of Perak and consequent fighting) British protection over the Malay States began.

'Little Englanders' will do well to study the conditions that led the Sultan of Pahang in 1888 to ask Queen Victoria to forget a murder he had condoned and send him a Resident. In Pahang courts a Malay had recently been fined \$32, a huge sum for a peasant, because his wife had broken an oil monopoly by making household oil from four coconuts. A Malay judge had confiscated the land and goods of a Malay litigant because a woman long since the man's wife had been wounded and seduced by him twenty years earlier. Finally, a Chinese British subject had been murdered outside the palace in extremely suspicious circumstances and the Sultan was to marry his widow. So came to be protected the four Federated Malay States of Perak, Selangor, Negri Sembilan and Pahang.

In 1909, in return for a loan to build a railway from the northern border of British Malaya to Bangkok and for a modification of British extra-territorial jurisdiction, Siam transferred to Great Britain her suzerainty over Kedah (and Perlis), Kelantan and Trengganu; and in 1914 the Sultan of Johore asked for a British Adviser. These later States are known as the Unfederated Malay States. The ruler of Johore saw that with the development of the tin and rubber industries, consequent on the introduction of motor-vehicles, British expert advice was necessary for his State's welfare. Nor need one stress the economic advantages of having under the guidance of one protecting power states that have produced nearly half the annual world output of both those commodities. Singapore, too, that Malayan Gibraltar, needs a friendly hinterland for supplies, freedom of manoeuvre and long-distance defence. Luckily that defence is helped by Malaya having an east coast with estuaries so silted by the monsoon from China that it has only one port, and that navigable only by the smallest steamers. Afforested mountains, swamps and scrub make the northern frontier easy to

defend against invaders by land from Siam. On the west coast the straits of Malacca are guarded by Singapore and Penang and the barrier of the Netherlands Indies.

Tin and rubber have not only given a small country international importance and made it a desirable prize for foreign aggression. They have doubled its population until it has nearly five million inhabitants, of whom more than half are foreign immigrants attracted by remunerative employment. There are about half a million Indians, but the bulk of the immigrants are patient and indefatigable Chinese. Chinese industry has mainly created Malay's wealth, which has been so great that in 1926, to take a boom year, Malaya's external trade was bigger than that of all other British colonies put together. With so large a revenue, the Malayan Government, Mr Harold Butler reported to the International Labour Office, "has been able to develop health and education to a point attained perhaps nowhere in the East except in Japan".

Malaria, for example, has been banished from all the larger towns and from many estates, though it cannot be eradicated, except at quite prohibitive cost, from terraced rice-fields, where Malay life proceeds much as it did in the later stone age. Still on the east coast of Malaya are tracts where the only sources of livelihood are rice-growing and the cultivation of vegetables for household consumption, and there are coastal districts with no trade beyond sea-fishing. But on the west coast where progress has induced a bias to road-side villages in place of river-side hamlets, orchards have been invaded by rubber-trees, and some of the younger Malays drive buses and Ford taxis or work as fitters in rubber factories.

Everywhere western influence is filtering into Malay social life, in strong khaki clothes for the male worker, in European tables and chairs for the home, in the purchase of vernacular newspapers, in gramophones and motor-cars, in improved methods of agriculture inculcated first in the village school and later by officers of the agricultural department.

The Malay has seen misapplied science insist on the cleaning and exposure of the roots of his coconut palms until they died; he

has seen clean-weeding cost rubber companies millions of dollars and bring about still more costly erosion of soil; he has been advised to employ chemical manures for his rice and watched the plants grow up so lush that the cars toppled into the mud before they could be reaped. He has smiled at these misadventures of progress and consoled himself that even the lordly elephant will stumble at times. But he has not failed to observe that rotation of crops, selection of seed and bud-grafting of rubber trees are not idle whims of the inscrutable white man.

Every villager praises the success of the British doctor in fighting malaria, yaws and hook-worm, and he respects and follows, so far as the lack of tooth-brushes will permit, the lessons in personal hygiene given by the village schoolmaster and schoolmistress.

Today he appreciates education even for his daughters. So long as the schoolmistress was an untrained woman envied for her 'white-coat' job, weak at sums and spelling, and unable to teach anything the housewife did not know, parents felt it was a waste of juvenile labour to send girls to school. When the European inspectress arrived and training classes were started for women teachers, the novelties of the curriculum filled the schools with eager pupils. Often the Malay woman not only "wears the trousers" but is the "better man", though never masculine or unsexed.

Some years ago, before there was a Pasteur institute in Malaya, I was asked to persuade a Malay woman to go to Saigon at Government's expense for treatment for a dog-bite. Though perhaps a hundred miles by rail or road had been her limit, she declared that she liked travel and could manage quite well without her husband, whose job kept him at home. On her return she told me that the trip had been most enjoyable and asked what would be a decent interval before her younger sister could also be bitten by a dog. I enquired what she liked best. "Well", she said, "I never expected to be treated like a Governor and have a policeman detailed to watch me when I went shopping."

It is not many years since the Malay constable was termed "a hound of the Company" and hated for his picking up of illegal gratifications. Today if at times the flesh is still weak, the spirit has blossomed forth into professional zeal and remarkable smartness on parade. The outside of the platter is so



*Malayan scenery, seen from a hill station where every*





*Paul Popper*

*morning and evening the clouds drive through the houses*





spotless that the police, once the outcasts of Malay society, attend the mosque every Friday in neater mufti than most of the villagers can afford, with a silver badge pinned in their caps and their jackets whiter than country women can launder their men's clothes in well or river water.

The Malay countryman likes his green surroundings much as a European farmer will, but he is always a realist. Where the Indian, for example, sentimentalizes landscape and compares the moon to a beautiful woman peeping from behind a door, the Malay cynically notes how restlessly birds will fly here and there "like men with two wives". Out of 700 essays written by Malay village boys on the relative advantages of town and

country life, only one had a good word for the country. The 699 wrote of the dirty water for drinking and washing, the fever, the skin diseases, the limited range of foodstuffs, the muddied clothes, and the lack of such social amenities as English schools and the "dark drama" or cinema. The one dissident, as the eldest of a large family, expressed a preference for the country, because there he did not have to spend his day rescuing the smaller fry from under the wheels of passing motor-cars.

The town attracts the Malay but urban openings for him are few. Business is in the hands of Indians and Chinese, who were expert at international trade centuries before the British. To sell in the foreign markets

*Paul Popper*



(Opposite) A country girl from upper Perak, near the borders of Thailand. (Above) A Sakai aborigine's hut of the huge palm leave found in the remote jungle fastnesses of Malaya



Paul Popper

*An embroiderer, working at the silk and gold-thread of a Malay woman's slippers. She is seated on a Malay mat and behind her is a pile of cotton sarongs, the national dress for both sexes*

and to secure imports at a competitive price, a knowledge of the Indian and Chinese languages and markets is required, and how can the Malay with neither capital nor specialized knowledge hope to compete with those races or with the British at commerce? He is a competent artisan employed by European miners and in European factories, but Indian and Chinese capitalists naturally prefer workmen of their own races. The Government service is the Malay's great refuge and even there he has had to compete with a host of Chinese and Indian rivals earlier to invade the white field with the black crop, while the Malay still loitered in his green rice-fields.

When a decade or more ago the Trade

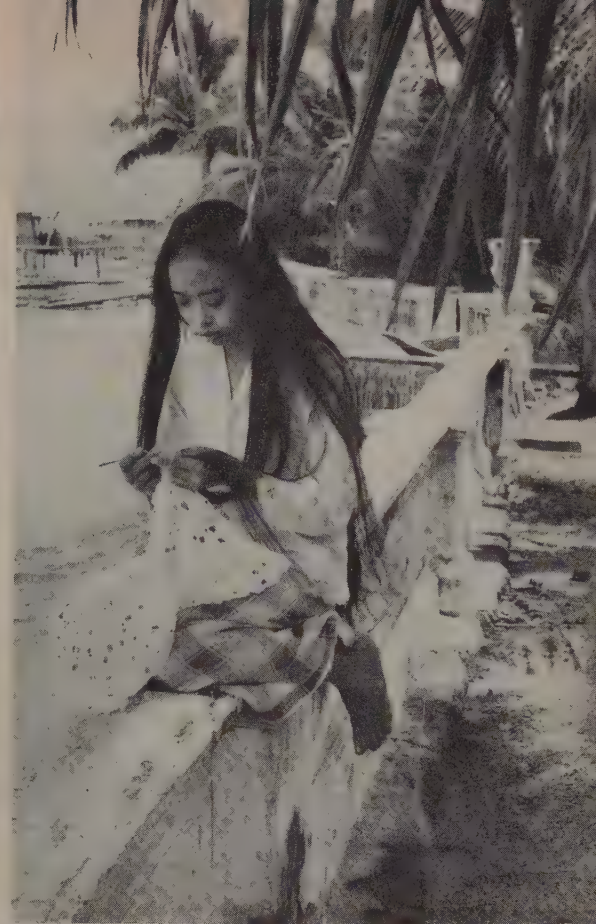
Schools began to produce skilled Malay artisans for civic employment, some Indian foremen at first kept them employed on the upkeep and repair of night-soil carts in the hope of finding in those carts a Maginot line for the defence of an old-established preserve for Indian craftsmen. But in spite of these difficulties, which the rapid growth of the foreign element in Malaya's population must accentuate, the Malay is of a good courage, and the cleverer boys who pass out of Raffles College at Singapore or take degrees with honours at Cambridge or become doctors or barristers are perpetually eager to succeed and to help their race.

There is no reason to doubt that should the present crisis call for sacrifice the Malay,





*Black Star*



*Black Star*

(Left) One of Singapore's winged policemen on point duty. The wings give him four hands for directing traffic. (Right) A Malay girl crocheting a light shawl, an art introduced from Europe

who is an ardent footballer and a lover of sport, will prove a good soldier. Until he enjoyed the *pax Britannica*, fighting between the harvests was for more than a thousand years the annual recreation of his ancestors, and a bevy of unarmed Malay and Javanese chauffeurs have been seen in full cry after a would-be murderer with a smoking revolver in his hand. At parade and physical drill the Malay soldier is so expert and alert that I have heard a British General express compunction that men from the several Malay regiments should train alongside a British regiment that happened to be not too spick and span on the parade-ground or too good on the rifle range. In Malaya's defence forces are to be found Eurasian, Chinese and

Indian volunteers as well as local Europeans. In few countries do so many peoples live together in more perfect amity, nor do the politics of the parish pump greatly interest the Malay or even the Chinese. The Chinese are too busy chasing the dollar, and the Malay is too much of an artist in life to worry about many and little things. The doing of one's duty in that station of life to which it has pleased Allah to call him is expressed by the Malay in homely words that are an admirable statement of his political views: "the headman, the official and the soldier are in their own spheres all kings; so is an infant a king in his own domain and so are poultry and animals in theirs".



E.N.A.

*Chinese tradesmen superintending the unloading of coconuts and gourds from sampans with Tamil boatmen, at Georgetown, Penang. The island of Penang means 'Betel-nut island', and is famous for its hill with one of the finest views of forest, sea and mountain in the world*





*Dorien Leigh*

*A fisherman's hut in the tidal waters of Penang. The louver window strikes a modern note and the laundry shows signs of a good sailing breeze*



*Malayan Information Agency*

*One of the beautiful coastal views that abound in the Peninsula and its islands. The tall palms are the only sign of cultivation by man*





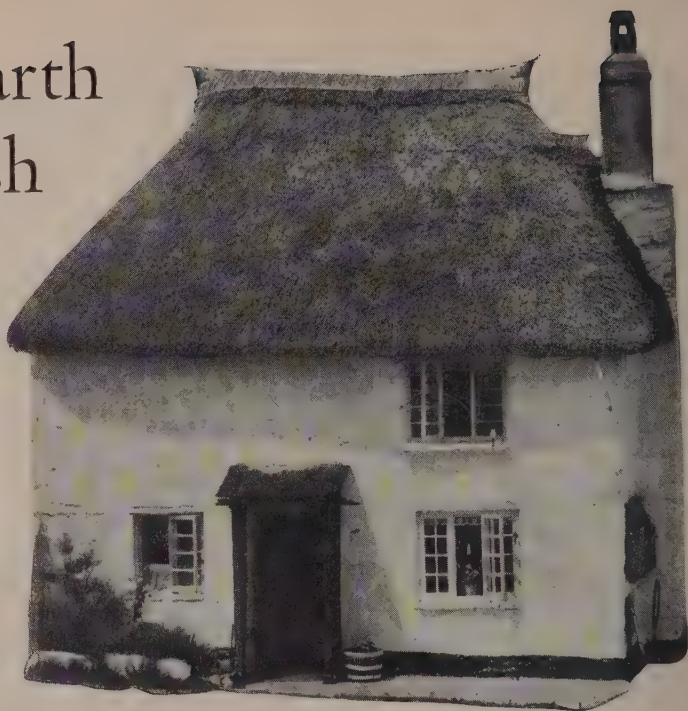
Malayan Information Agency

*A Pahang fishing village with a bridge crossing a tidal creek. Sail-menders are at work on the sands and above the palm-thatched huts tower old coconut palms*

# English Earth and English Buildings

## III. The Lias

*In the last of his articles on English regional architecture, Mr Massingham turns to the liassic belt which occupies less territory than the limestone or the chalk but illustrates a novel and delightful aspect of his subject. The first article in the series appeared in October last and the second in November*



by H. J. MASSINGHAM

THE liassic rock, Lower, Middle and Upper, lies immediately under the oolite limestone. It appears in two forms; plains of dense but extremely fertile blue clay and detached heights of red sandstone whose quality as landscape is not only in sharp contrast with that of the continuous range of oolite limestone but wonderfully individual in itself.

Apart from certain architectural characteristics shared by the Tertiary beds of the chalk and the liassic vales, these marls and sandstones guided the human genius in structure into two distinctive types: the rather severe and imposing church tower and the cob cottage. In Cheshire, these sandstone towers have been aptly described as burly, and their sturdiness quite lacks the grace and richness of the limestone towers of Somerset. In Herefordshire, the North Midlands and the south-west, the same type prevails, sometimes detached from the body of the church and with square-headed windows, still massive but rather more amenable to ornament. In Devon, the passage from east to west nicely reflects the influence of the complex Somerset

culture on the one side and the rugged grandeur of the Cornish granite towers on the other. The interiors of these south-western churches are often as profuse in carved woodwork as are those in the chalk country of East Anglia, but the sandstone towers never quite surrender their austerity to adornment.

As for the cob-and-thatch cottage of the Devon marls, it is probably an adaptation from even more primitive but perishable wattle-and-daub. The old saying that a cob cottage with a good hat (thatch) and a pair of shoes (stone plinth) will last as long as man is on the earth to look after it, is as true as may be. The cob cottage is vanishing now simply because man no longer does look after it. The harmony of the low thatch, scalloped at the eaves, with the cob wall and the stone base to keep out the damp is impeccable; aesthetic perfection in this medium could go no further. The cob cottage is, in fact, an example of the truth, ignored by modern ideas of progress, that primitive craftsmanship often reaches finality both in lastingness of structural purpose and





Stanford, London

*In this map, the lias formation can be seen accompanying the oolite right across England from south-west to north-west and at certain points biting deeply into it. The other sandstones are a similar type of rock*

in aesthetic values early rather than late in its development. The processes of cob-making with dung-fork and cob-parer from the mud-clay and straw (in Dorset mixed with chalk), layer upon layer with intervals for hardening, are indeed precisely the same as those of the house-martins building their clay nests under the eaves. The technique of mixing the clay with the straw, of watering for the sake of the consistency, of following one wash with another and of a suspension of labour between them, repeats the instinctive method of the "temple-haunting martlet". The cob cottage is as true to nature as to its regional rock.

#### A PRIMEVAL CONFLICT

The true lias impinges upon the western border of the oolite limestone throughout the greater part of its journey north-eastward from Burton Bradstock, on the coast of Dorset, to the estuary of the Humber. This represents the entire liassic region of England. It is always a narrowish belt except in two areas: that of western Dorset and a strip of east Devon about Lyme Regis, and along the north-western edge of the Cotswolds where it forces the limestone to the east off its track and thus leaves a bulk of the northern range jutting out as a cape or promontory into the Worcestershire and Warwickshire plain.

But though the Upper Lias or sandstone scarp is hardly conspicuous except in these two blocks of country, and the rest is mainly a plain of Lower Liassic clays with an average width less than half that of the main body of the Cotswolds, it exercises again and again the most disturbing effect upon the course, the continuity and the full self-expression of the limestone range. This is most marked in the two regions I have named, but the same phenomenon of aggressive encroachment appears above Bath, between Deddington and Banbury in Oxon, in the Towcester district of Northamptonshire, at Northampton and along the Nene Valley between Wellingborough and Thrapston.

In all these places, and insistently where the borders of Rutland (the 'Red Land', country of liassic sandstone) run with those of Northamptonshire, the lias not only elbows its way into the limestone ridge but sometimes completely breaches it, like waves bursting a sea-wall.

At the blunt cape of Chipping Campden, indeed, the lias is the shore of the limestone on three sides, and these breaches into the oolite scarp further north are the reason for its wavering line and indecisive course after leaving the Cotswolds. At the extreme limit of the oolite massif in the south-west, this intrusion is so obstinate that it is difficult to follow up the pinched-in, writhing trail of the limestone to Sherborne, where its northward direction acquires a measure of confidence and self-determination until it broadens out into the large dominance of the Cotswolds proper. From the Channel to the North Sea, this great range is positively besieged by the lias.

It may appear that this description is almost too psychological. But it explains what actually happens and the conflict between two strata is nowhere else in England so dramatically represented. For the respective landscapes of these opposing rock-formations flatly contradict each other. The very essence of the limestone ridge is composure, rotundity, order, spaciousness, a classicism of form: in these it resembles the broad-bosomed tranquillity of the chalk downs. The texture of the stone itself, the well-spaced proportions of limestone buildings and the continuity between period and period revealed in them, faithfully translate this effect of landscape into their own language. But the liassic uplands present an utterly different scene: of unrest signified by storminess of outline, of disorder even to the point of chaos.

This turbulence and discontinuity are most apparent, along the coast and inland, between Bridport and Lyme Regis. The hills are tumbled out upon the floor of earth as though flung from a gigantic basket, and their fantastic forms, elliptical, cone-shaped, tower-like, truncated, often take on a baroque effect from the streaks or tufts of trees that crown their summits. They possess a craziness of profile wholly at odds with the majestic sweeps of downland and wold. This cliff-line is indeed a Walt Disney landscape. Nature, with a burst of gargoyle imagination, hid beneath these surrealist hills a group of gigantic fossil dragons whose monstrous bulks were heaped over by funeral mounds. If you travel up and down the twisty sandstone cuttings or sunken lanes north of Bridport, you





Val Doone

*Distant view of Worcestershire's liassic hills. When closer to them one can appreciate their variety of outline, oddity of shape and disconnectedness*

get a fair idea of the incoherence and disarray of the liassic hills in the region. It is wandering in a labyrinth; all sense of direction is lost; the track wriggles up and down, to and fro in a madding maze and nowhere does the eye find rest. Contrast this tumult of heights with the peace and breadth and continuity of line upon the Cotswold plateau, along Buckle Street between Broadway Tower and Bourton-on-the-Water. Who will then deny that every rock in England is kneaded to its own particular fashion of hill and dale?

#### LANDSCAPE AND BUILDING

Does the character of the buildings on the liassic soils correspond with that of the land-

scape, and are we able to draw the same psychological conclusions by comparing the respective architectural types proper to these two contiguous strata, lias and oolite? The only way to find out is to survey the borderland between the oolite ridge and the liassic hinterland. The very best region for this is the richly indented north-western edge of the Cotswolds which commands the junction between the Severn and Avon valleys below the scarp. Cotswold architecture achieves great strength of expression along this section, in fine conformity with the power and grandeur of the range, while the liassic country to the north and west is both vale and a group of sandstone hills whose romantic

forms and detached sites make a kind of archipelago in the great sea of the Worcestershire plain. These mounts—Dixton, Dumbleton, Oxenton, Woolston, Alderton and others—each crowned with the cirque of a Celtic hill-town—are called in guide-books outliers of the Cotswolds. This is a miserable misnomer; a mere glance reveals the authentically liassic difference between them and the wold sheepwalks that glide into the sky. From the Edge, the line of sandstone hills seem to change places as you move, and have an oddity of shape in contrast with the simple nobility of the limestone scarp to the east and the severity of the plutonic Malverns to the west.

Stanton, just above the rim of the foothills between Stanway Hill and Bredon, shows its loyalty to the limestone by the disciplined richness of its stonework. Yet the influence of the nearing liassic clays is apparent in barns of timber-work and a semi-detached chimney stack on a buttressed stone base of the same design and in the same position as the *brick* chimneys of the Vale.

Lower down among the foothills, as the scarp recedes and the Avon Valley opens,

these transitional compromises become more intrusive. Broadway, strung-out down the glide of Fish Hill, admits a very local wood-work and wattling to its limestone. North of the Carrant Brook, which joins the Avon at Tewkesbury, a curve of villages lies between the maze of sandstone hills and the chased but unbroken limestone cliff. Of these Bredon at once reflects in its architecture the geological debate between lias and limestone. The spire of the church is distinctively of the Ledbury type of Herefordshire sandstone, but the material and the rest of the church are true oolite, as are the rectangular stone lines of the tithe barn.

The village itself is a border settlement if ever there was one. Vale and Cotswold are in mutual conference there: limestone is the main theme, but overtones and variations of sandstone—old red brick, colour-washes, timber-framing, plaster, umber tiling and thatch keep breaking in: the almshouses, for instance—on the same house. This medley of materials is an extremely delicate recognition of geological site, a register of intermediacy, just as the semi-rounded arches of the Transitional Norman church are of becoming

*At Broadway, Worcestershire. The half-timbered gable-end distinguishes this substantially-built row of cottages from the villages of the high wolds two miles and more away on the oolite ridge. The transition from oolite to lias is much more marked in the buildings further away from the Cotswold escarpment*

*J. Dixon-Scott*





*This clump of trees on the edge of the crest is characteristic of liassic hills on the borders of Dorset and Devon. The slopes of these hills are often conical and much more abrupt on their flanks than is to be seen in the photograph. A liassic hill - landscape is never continuous, nor restful, nor comfortable like a chalk or limestone range, but is much more dramatic and changeable in outline than either: the eye has no chance to follow a long sweeping line*

*Val Doone*



*Ledbury church spire. Note the close 'post - and - pan' work, along the jettied front of the row of cottages running up to it. A carved corner-post can also be seen on the left, supporting the overhang of the first storey*

*Val Doone*





Val Doone

*A neat, plain thatch on a Devon cob cottage whose foundation is probably stone painted black. The cob walls are built by the same method, and indeed with the same materials, as the house-martin employs in nest-building*

rather than being. Kemerton is right on the border between Worcestershire and Gloucestershire, and here, as at Conderton and Beckford near by, lias and limestone bring equal gifts to a common centre. These interchanges can be pursued into all kinds of niceties and intimacies. Thus, the symbolistic tympanum of the west door at Beckford Church is pure Norman Cotswold, while the Queen posts, canopied pews and wagon vaulting recall the heavy mixed woodlands of the liassic floor.

Closer under the sandstone hills, the farrago of building materials among villages in sight of the limestone massif is still more marked. Brick, thatch, timbering and colour-washes now begin to be dominant, but Cotswold stone and Cotswold style are by no means

yet ousted. There is one building at Great Washbourne which is a harlequin among houses. Cotswold windows, with mullions and dripstones, are the eyes of a red brick upper storey under a roof of limestone slats; while on the other side brick windows are cut out of stone walls, and the Cotswold copings of the gable-ends are not angled but rounded in the Dutch manner.

In this region you will often see thatch, tiling and stone-slats on the same roof. Elsewhere, this heterogeneity would be irrelevant freakishness: at Great Washbourne there is meaning in the madness. Alderton tucked under Alderton Hill, once a nucleus of village glove-making, mixes its architectural patterns as freely as its substances, and the four barns in the village are constructed out





Will F. Taylor

*Note here, in Worcestershire, the stone-slatted roof, the stone plinth, characteristic of the limestone country, and the half-timbering and overhang of the liassic Vale. The mullions of the windows are also of stone. Further into the Vale, the stone quite disappears from the cottages*

of no fewer than seven materials. Nor does differentiation stop there. This old village also excels in variety of colours for the washes over brick and in the different compositions of its timber-framing. When I was last at Alderton, I could see not a single cottage that imitated its fellows; it was the more painful to see modern uniformity in drab council houses being gradually imposed upon it and dulling its natural originality.

Child's Wickham on the edge of the Vale of Evesham favours Cotswold stone-slatting as a hat for timber 'post-and-pan' work, with diagonal bracing and horizontal lines of intersection. Incongruous but just right. At Wormington, the rich orange-yellow colour-wash gives an effect of carefree gaiety and exuberance that exactly suit a liassic land-

scape. Yet a four-gabled Cotswold dovecot there is a reminder of the sober magnificence of the limestone range still in sight to the south-east. At Bretforton, however, nearer Evesham, the fruit town whose busyness comments upon the exceeding fertility of this liassic land of small-owners, the dovecot of the Grange Farm is in the more versatile and nondescript manner of the Vale. The Fleece Inn, occupied by the same family for four centuries and containing a superb collection of 'bygones' and old pewter, is a long, low building on a stone plinth, half timbered with in-fillings of cream-coloured brick, roofed about its brick chimneys partly by thatch and partly by stone-slats. It is a perfect example of the versatility of Vale buildings. Badsey Manor to the south-east of Evesham, standing

like a disdainful islet in a sea of urchin council houses, is a frolic of arched and straight lengths of timbering, standing under a roof of stone-slats and tiling, up-tilted at the eaves, with a quadruple brick Tudor chimney-stack rising from a huge buttressed stone base. It possesses the fantasticalness of early Shakespearean comedy. Mickleton, the poet Shenstone's home at the top of the Cotswold Cape of Campden (facing Drayton's Meon Hill in the Warwickshire plain), is more random and ingenious than ever and I noted there one minute cottage of stone, brick, plaster, tiles and half-timbering all living together in fraternity. At Broad Marston out in the plain the idiom is chequer-work timbering, and so this fluidity and fancy continue in village after village within the liassic belt.

These examples represent a dual fidelity to the regional environment. First, the gradations from limestone to lias are expressed with the most delicate precision. Among the wold villages the limestone is supreme and without rival; the villages of the slopes and pockets of the Edge concede a partial influence from the Vale; the villages at "the rotes of the hills", to use John Leland's phrase, display what the Elizabethans would call a 'gallimawfry' of styles and materials quite anarchic in mixing of substances proper to two totally different types of rock-strata; while the villages right out in the Midland liassic plain (Ripple, for instance) have entirely discarded the oolite building stone. I have chosen the region of the Severn and Avon confluence because there this happy phenomenon is at its most graphic. Further north and east, the ironstone of the Northampton Sands, a liassic bedding plane, has excited the cupidity of modern business enterprise with the result that, architecturally speaking, nearly the whole area is in ruins. In the south-west, it is not desecration that robs regional building of its vital characters so much as the tenuity of the limestone ridge, squeezed-in by the chalk on one side and the lias on the other.

But liassic regionalism in building is not only geographical; it is also cultural as is shown in the free beauty of design and proportion and in the even more striking fact that these villages, so charmingly licentious

and fanciful in styles and materials, have caught the fantastical element of the upland liassic landscape itself. This unconscious correlation of spirit is partly due to the exceptional fecundity of the liassic valley soils. Quite apart from the vegetable and fruit cropping of the Vale of Evesham, they produce, in the south-west, the best flax in the world. Woodlands, too, were once abundant in the Severn and Avon Valleys, and the high technique of the thatching craft in the Avon Valley indicates a superior quality of straw from heavy cereal crops. But the fact that the craft of building on the lias does intuitively and not deliberately recreate the special character of the liassic hill-landscape is the more remarkable on that account. It shows man and nature in an aesthetic relationship which is the essence of regionalism.

#### GREAT TIMBERING

If we move further westward into the valleys of the Wye, Dove, Lugg, Teme and Upper Severn, carved out of the Silurian deposits of Shropshire and the Old Red Sandstone of Herefordshire, we find the woodworkmanship of the Avon Valley carried to the utmost pitch of elaboration. This is the country of the 'magpie' timber-framing and the name of John Abel (1577-1674), the 'King's Carpenter' who built the market-halls of Leominster and Ledbury and the 'Old House' at Hereford, has come down to us as one of the master-craftsmen of the region. As his epitaph in Sarnesfield churchyard reveals—

His house of clay could hold no longer,  
May Heaven's joy *frame* him a stronger.

Renaissance timbering in the West Midlands had acquired a status more elevated than that of the anonymous masons and carpenters and wall-wrights of the village and market town. Moreton Old Hall in Cheshire is the conventional example of the magpie style but there are countless specimens in Bridgnorth, Weobley, Eardisland, Pembridge, Dilwyn, Wellington, Leominster, Ludlow, Tenbury and elsewhere. Every kind of refinement—the cusping and foliation of barge-boards, the moulding of fascia-boards, the panelling of doors, the working of mullions and window-frames, the floral and figure carving of





Ralph Keene

*Morston Old Hall, Cheshire. This is the type and example of the 'magnific' style, carried to extravagant lengths but of very fine craftsmanship. The wallings here are of wood, not stone, while the quiet, sober, unobtrusive effect of limestone buildings is quite lost. The magnific style is a kind of regional baroque in timber, exuberant and very skilful but occasionally fantastic.*







Val Doone

*The dovecote (opposite) is an exquisite example of the magpie style of Herefordshire Old Red Sandstone at its very best. Note the carving of the barge-boarded gable, crowned by a finial, and of the beam above the doorway. Here the craftsmanship is lavish without being too ornamental. The Flintshire half-timbered mill (above) is a good example of timbering in sandstone country which is not over-decorative*

the corner-posts, special treatment of the timber-jettied upper storey—accompanied the constructional framing.

This ripe, almost too intricate, development both in structure and profusion of ornament sprang out of the original 'cruck' house of curved principals from forest trees forked at the two gable-ends and united by the ridge-pole. There are probably more surviving cruck houses on the lias than on any other rock, and from this primitive type was evolved the post-and-truss frame with its many variations of post-and-pan, tie-beam, hammer-beam, arched brace, king-post and others that were the glory of regional timbering from the early Middle Ages onward.

The timber-framing of the West Midlands does not express quite so mature a craftsmanship as that of the Kentish and East Anglian

chalk; its primacy is rather in invention, richness and exuberance. These qualities are in entire concord with the 'fine excess' of liassic building further east. Both are a true flowering of the Gothic genius which nursed the regional idea, based on the primeval rock, into a fullness of beauty in architecture never, in my opinion, achieved before or since.

Gothic building was, as I say, based primarily upon the region and so from the very beginning established a right relation with nature which certainly was one of the main sources of its extraordinary development. The regional idea has perished in our times. Modernism is totally antipathetic to it. But because it does express this right relation to nature, it will infallibly be reborn when men weary of the modern idea of progress and standardization.

# The Stone Buddhas of Yün-kang

by S. HOWARD HANSFORD

*The great rock temples described here were constructed in the fifth and sixth centuries, A.D. They reflect a period of particular prosperity for Buddhism in China, comparable with the contemporary revival of the faith in India which inspired the paintings in the caves of Ajanta, described in our pages in October 1937*

DURING a recent stay in North China I determined that I must at all costs contrive to visit the famous cave-temples at Yün-kang, near the border of Inner Mongolia, where the rock carvings comprise the largest and most important group of early Buddhist sculpture in the Far East.

The village from which the caves take their name lies in the rocky valley of the little Shih-li river, where it flows through a wide gorge between sandstone cliffs about ten miles west of the city of Tatung. A rambling, dilapidated place of some 50,000 inhabitants, Tatung lies in a plain among the uplands of North Shansi. Since the Japanese occupation it has been incorporated in an administrative territory called *Mêng-chiang*, or the Mongolian Borderland.

In this region the winter is intensely cold, the summer hot, and the annual rainfall at Tatung is only 14.6 inches, of which the greater part occurs in July and August. In winter the brown, boulder-strewn landscape with its dusty tracks and dry or frozen riverbeds lies seared in the glare of the sun blazing from a cloudless blue sky and produces a curious illusion of extreme heat. My wife and I had made the eleven-hour journey from Peking to Tatung in a stuffy railway carriage, and, looking out on such scenes as the train wound its way through the Nan-



Stanford, London

kow Pass and across the Great Wall, it was not difficult to imagine ourselves in the hills above Aden.

We arrived late at night at our destination, and were hospitably entertained at the Anglican Mission Hospital, since closed down and commandeered by the Japanese. The next day we learnt that visits to Yün-kang were no longer permitted by the military authorities, so we resolved to get there as soon as possible. Until recently the usual

*The track from Tatung to the cave-temples, used mostly by mule and ox carts*

*All photographs from Porien Leigh*





means of transport was the springless Chinese cart, but the invaders had brought with them an enterprising camp follower with an aged Chevrolet. So we repaired to the Japanese inn and engaged it to appear at dawn on the following day.

Arriving only three hours late, it took a hesitating and laborious course out of the city along the old caravan route that leads into the north-west. The sun shone brilliantly through a crystal-clear atmosphere, the air was motionless, and the thermometer stood at twenty degrees below freezing point. The track, dusty but deeply rutted by many seasons of rain, wound along the wide valley, now crossing the frozen bed of a torrent, now cutting its way between steep banks of loess or following a narrow ridge above a precipitous drop to the river.

We met a considerable traffic of mule and bullock carts as well as two trains of camels, loaded, not with gems and rich stuffs from afar, but with household brights from the neighbouring coal mines. We saw no other travellers, however, which was not surprising in view of the disturbed state of the countryside. The Japanese maintain a powerful garrison at Tatung, but their authority is fiercely and relentlessly opposed on all sides by Chinese troops. Only a few days before our visit a Japanese force of 300 men engaged on a punitive expedition against 'the bandits' just beyond Yün-kang had been ambushed and annihilated.

*Before a wayside temple. A 'dragon-screen' faced with tiles and coloured dragons in high relief*



At last we turned a bend in the valley and our goal appeared a mile ahead: the cave openings in the cliff face and even some of the exposed carvings were plainly visible in the brilliant light. In another twenty minutes we were in the presence of the Stone Buddhas.

The work now seen at Yün-kang was probably begun about A.D. 460 and proceeded with great activity under the patronage of Hsien Wên Ti and Hsiao Wên Ti, the sixth and seventh emperors of the Northern Wei Dynasty. The Wei people were of nomad origin, and had moved into North Shansi, probably from the neighbourhood of Lake Baikal, early in the 4th century, establishing their capital a few miles north-west of the present site of Tatung. Their occupation was eventually recognized by the reigning Chinese dynasty, the Western Chin, who conferred the title of Prince of Tai upon their chieftain. His family was called T'o-pa—the people are sometimes known as the T'o-pa or Toba Tartars—and the princes acquired such prestige during the subsequent period of civil war in China that in 386 they assumed imperial status. Twelve years later they moved the capital to a new site at Ping Cheng, just east of Tatung, whence they extended their authority southward to within a hundred miles of the Yangtze, and their influence well into Central Asia.

The Buddhist faith, which had taken root in China early in the 1st century A.D. and had prospered greatly under some of the

*A few of the sculptured cavities in the cliff, now partly disintegrated by wind and sand*







1



2



3

1. Head of Buddha figure, restored and painted, forming part of the massive central pillar which supports the roof of a large cave. 2. Relief carving of a group of votaries in attitudes of prayer. A fine example of the Chinese (Wei) style as opposed to that of 3 Buddha attended by Bodhisattvas in the more conventional style derived from India and Central Asia. 4. Part of a wall with niche containing figures of two Buddhas, Sakyamuni, the historical Buddha and Prabhutaratna

4







5



6



7

5. A seated Bodhisattva in an attitude of meditation. 6. Doorway and window of a temple. This picture shows the profuse decoration on walls and ceiling; not a handsbreadth of space left uncarved. 7. Section of wall near an entrance with carvings of Buddhas in miniature and some fine Wei-style figures in alcoves. 8. Detail of a large painting in two parts, of the 18 Lohan or Apostles of Buddhism. Legends of these famous saints are among the best loved Chinese tales

8





*The mauve-tiled Temple of the Stone Buddhas is guarded by a single monk. The bells hanging from the roof still tinkle in the wind but the building is neglected and falling to ruin*





*The great seated Buddha, over 50 feet high, once protected by the cave which has now fallen in, looks out over the river Shih-li, a supreme memorial to the piety and energy of the old Wei emperors of China*

short-lived dynasties that ruled various parts of the empire in the 4th and 5th centuries, became the object of a ferocious persecution under the third Wei emperor, T'ai Wu Ti. He issued a decree that all Buddhist books and images were to be destroyed, the building of temples was forbidden, and many monks and laymen died for their faith. After his own death in 452, however, the decree was rescinded, and Buddhism entered another period of prosperity and imperial favour. It is to this period that the great series of rock temples are an enduring monument. Their walls are embellished with countless carvings of Buddhas and Bodhisattvas, from the miniature to the colossal, traditional scenes from the life of the Buddha on earth, and great quantities of accessory ornament. (Bodhi-

sattvas are saintly beings whose merits have won them the reward of Nirvana, but who elect to postpone their entrance into that blissful state in order to continue to give aid to suffering humanity.)

Much of the work was completed before the end of the 5th century, but it continued into the next until the whole face of the cliff north of the river was honeycombed with caves, as it still is, for a distance of over half a mile. They vary in size from recesses a few yards square to spacious and lofty halls, the most imposing one of all measuring forty-four feet by forty-two and rising to a height of some sixty feet.

Almost every inch of wall-space is ornamented with carving in high relief, often deeply undercut — Buddhas of all sizes,

gracious but aloof, enthroned in deep alcoves or standing surrounded by flaming aureoles; smiling Bodhisattvas; angelic figures soaring and swooping above and around, sometimes with instruments of music in their hands; pious worshippers; complicated designs of rosettes and floral scrolls embellishing the ceilings and the small areas of wall unoccupied by figures. In some of the caves stretches of several square yards are covered with row upon row of little Buddhas, three or four inches high, of uniform size and design.

It is often difficult or impossible to identify the personages of the great Mahāyāna pantheon represented in these sculptures. Many could only have been recognized by the inscriptions, at one time no doubt numerous, that have long since disappeared through the weathering of the sandstones. Only three remain, the earliest dated 483.

Weathering has led, too, to much decay and disintegration of the carvings themselves, and even to the collapse of some of the caves. The need of restoration was felt from early times, and many of the figures were overlaid with plaster and painted. A number of the caves have been so restored in recent years. The effect in places is rather lurid, but if, as is likely, the carvings were coloured at the time they were executed, the impression we receive in the dimly lit interiors is perhaps not so different from that made on the first visitors fourteen centuries ago.

Any restoration, indeed, seems creditable, when one contemplates the shocking vandalism of the last twenty-five years. Great numbers of figures have been hacked out from the rock and hundreds of heads knocked off to tempt the appetites of dealers and collectors in Peking, London, Paris and New York. Since steps were taken by the local authorities to save what the plunderers had left, stonemasons are said to have started in business at Yün-kang to supply the demand by carving imitations from original models in the native stone.

At one time the whole stretch of the cliff was approached through temple courtyards and buildings. Out of them staircases led up to wooden galleries from which caves at the different levels were entered. All have disappeared except the group of buildings known as the *Shih Fo Ssū*, Temple of the Stone

Buddhas, a beautiful mauve-tiled relic of the Ming Dynasty (1368-1644). It is sadly neglected, however, and the rickety staircases and rotting galleries swayed alarmingly as we clambered along the cliff face.

The construction and ornamentation of cave shrines was not practised by the Chinese of classical times and was, no doubt, a Buddhist innovation derived from India, where it was followed considerably earlier. One is therefore not surprised to find Indian influences much in evidence at Yün-kang, as well as others of Iranian and Central Asiatic origin acquired from religious and cultural centres along the route by which missionaries travelled between India and North China.

Two main styles of sculpture are discernible at Yün-kang, with one or other of which the majority of the figures can be identified. The first, though still in its archaic phase, had probably been evolving on Chinese soil for several centuries. This is generally known as the Wei style, and many examples reach a high level of artistic attainment. It displays elasticity of form and a faculty for subtle variations of facial expression. Much attention is paid to the motive of drapery, and in its arrangement appreciation of the significance of rhythmic line is everywhere apparent. All this will be recognized as a remarkable achievement, when it is remembered that the details of the subjects were rigidly prescribed by religious practice.

The other style is more directly dependent on foreign models and has much closer affinities with the Buddhist art of India, especially as developed in Gandhara in contact with Hellenistic influences. It is exemplified by many of the larger Yün-kang figures, particularly the great seated Buddha, over fifty feet high, which strikingly resembles the colossal stone statues at Bamiyan in Afghanistan. This is situated near the western end of the cliff, furthest from the temple buildings, and, like the others, was originally protected by a cave. But the vault has fallen in, exposing the great figure to the light of day. There it sits, looking out over the river, a supreme memorial to the piety and energy of the old Wei emperors, till wind and rain and man's neglect shall have reduced it to dust.





*A large area of wall with carvings inspired by many sacred themes. Note the pagodas. These and other architectural subjects throw important light on Chinese building of the period, all of which have long since disappeared*

# Laying a Submarine Cable

by CLAUDE H. F. WHITE

WIRELESS telegraphy and telephony is an ideal system for long-distance communication, but unfortunately it has one great drawback in war-time: the messages are liable to be picked up by the enemy.

The submarine cable, on the other hand, is almost proof against eavesdropping. The old days when 'milking the cable' was a profitable occupation for crooks have passed for ever.

The laying of a cable is by no means easy, nor is the task reserved for peace-time. During the last war the cable ship *Colonia*, a vessel of 8017 tons, put down a cable between Peterhead in Aberdeenshire and Alexandrovsk in Russia in order that we might communicate with bases in North Russia. This was the ship that laid one of the longest cables in the world, between Vancouver and Fanning Island in the Pacific.

Before a cable is laid much preliminary survey work must be undertaken over the proposed route. The cable ship steers a zigzag course, each arm of the zigzag being approximately 5 miles. A sounding is taken at each end and in the middle of each arm. On one occasion in the North Atlantic, the *Dominia* took 917 soundings in 12 days. Of 9273 tons, she was built in 1926 and up to the time, ten years later, when she was sold to become a whaling depot ship was the largest cable ship in the world. A chart is made of the sea-bed and, as on ordnance survey maps, the various mountains and depressions are given names. For instance, 'Telegraph Plateau', a large level stretch of sea-bed in the Atlantic, or the 'Faraday Hills', also in the Atlantic, named after the famous cable-ship *Faraday*.

Allowance must be made for 'slack' when the cable is laid in order to fit these undulations of the sea-bed. This is achieved by laying a pianoforte wire simultaneously with the cable, but quite taut. The difference between the length of the cable paid out and the wire gives the amount of slack.

Deep-sea cable is more heavily armoured than shore ends and is always laid from sheaves situated in the stern of the cable-laying vessel.

Shore ends, in shallow waters, are invariably put down from the bow of the vessel because she is better able to answer to her helm in this way.

Before leaving the ship the cable passes over the sheave of a dynamometer which registers the strain to which the cable is being subjected; if this is suddenly increased the brakesman becomes aware of it and eases the strain.

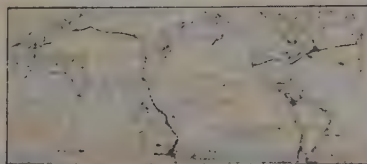
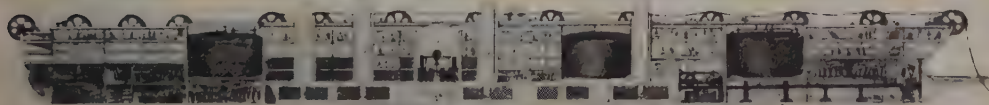
While on duty the cable-laying vessel always shows the international 'out of control' signal, because this is, so to speak, her condition. This signal consists of two red globes with a white diamond in the centre, by day, and at night a white light sandwiched between two red ones.

The maximum depth to which any line is laid is 3500 fathoms. To go deeper would place too great a strain on the cable when it is raised for repairs. Actual breakages are rare today, and samples of cable raised after prolonged submersion still reveal on their upper halves the whitewash applied in the factory. This shows how safe and snug the cables lie in the ocean depths. Damage is caused mainly by the fouling of ships' anchors at the shore ends, and in deeper waters by the ravages of a minute marine borer, commonly known as 'teredos', which burrows into the gutta-percha insulation in millions. Sharks, saw-fishes, sword-fishes and even whales sometimes interfere with the line. Whales have been known so to entangle themselves on the sea-bed that they have been drowned!

The stowing of cable in the cable tanks is an interesting if monotonous task. In order to avoid kinks it is done by hand. A number of men sit round on stools receiving the cable from another man who "runs round and round with it". Life lines are suspended in the tanks when paying out so that the men may make a speedy exit in the event of the cable 'taking charge'. The tanks are flooded with water when all the cable has been taken inboard to prevent the gutta-percha from cracking.



# THE ATLANTIC TELEGRAPH.



Photographs by courtesy of the Postmaster-General

A poster published by the G.P.O. in 1866. It gives a sectional view of the cable ship Great Eastern and shows the route of the trans-Atlantic cables of 1858, 1865 and 1866



*The first vessel from which a submarine cable was laid; the Goliath, a tug, putting down the cable between Dover and Calais in 1850-51. She is seen paying out the electric wire. The cable itself was wound on the huge drum on deck*

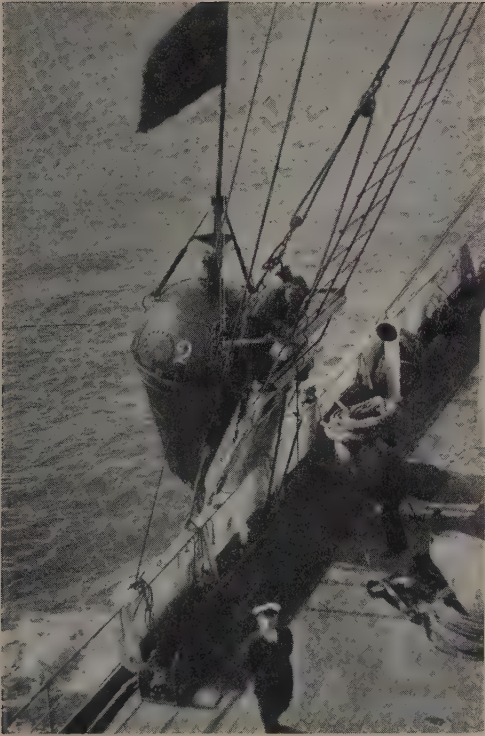
Hauling up a cable for repairs in the old days was a long job for it was 'hooked up' by grapnels. This placed too great a strain upon it, so a modern 'cutting and holding grapnel' has been devised. Even today the process is far from speedy, as was shown by the *Dominia* when she spent thirty-five days vainly looking for a cable near a mark buoy she had dropped at 2840 fathoms. This was in 1921, in the North Atlantic near the American coast, where many Transatlantic cables converge. A submarine earthquake had destroyed the lines of communication and every available ship had been called out to repair the damage.

The science of seismometry greatly assists the cable companies in forecasting and locat-

ing submarine disturbances. In 1888, before its general application, an extraordinary situation arose. The three cables coming from Australia became dead, simultaneously. This silence was interpreted by the Australian Government as being due to sabotage on the part of a hostile power. Consequently the Naval and Military Reserves were called out—when it was found that the culprit was a huge submarine earthquake on the floor of the Indian Ocean.

The first cable to be a commercial success was laid between England and France by a Mr Brett in 1850-51. During the following ten years other short distances were bridged; but the epic of cable-laying was the Atlantic attempt started in 1857 under the auspices of

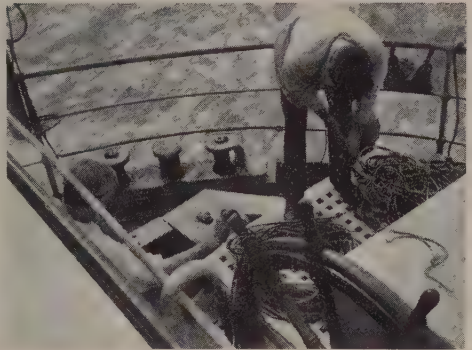




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1. Ready to buoy. These buoys, with flag attached, are dropped during operations to mark the beginning or end of a cable or the point at which a break has occurred. 2. Coiling or 'cheesing down' a cable on a raft. 3. The electrode on a cable repair ship

the same Mr Brett, Sir Charles Bright and a retired merchant, Mr Cyrus Field.

H.M.S. *Agamemnon* and the U.S. frigate *Niagara* tried in vain to lay this Atlantic cable between Ballycarberry Strand, Ireland, and White Strand Bay, Newfoundland, and much money was spent. Then 'the wire squadron', as they were subsequently called, finally achieved success, and on July 17, 1868, Queen Victoria and the President of the U.S.A. were able, by means of it, to exchange congratulatory messages.

But on October 20, 1878, this famous cable faded out for ever. Laid as the result of much thought, time and money, it was gradually destroyed by electricity. For the 2000 volts advocated by Mr Whitehouse,

the chief electrical engineer of the company, destroyed the gutta-percha insulation. In the light of modern experience it is almost certain that this cable would still be working had a potential of 2 volts been used instead of 2000.

The second Atlantic cable was successfully put down by I. K. Brunel's famous ship the *Great Eastern*, and from that date the use of this submarine method of communication between continents has proved efficient and satisfactory.

Through gales, hurricanes, snow blizzards and mountainous seas the cable ships plough their way. War makes little difference to them or to the hard-working crews that man them.

# Remembering Northern Ireland

by LOUIS MACNEICE

NORTHERN IRELAND nowadays means the Six Counties—Antrim, Londonderry, Down, Armagh, Tyrone and Fermanagh. The most northerly point in Ireland, being in County Donegal, is therefore in the South. Leaving aside these political anomalies and taking the Six Counties as a separate entity, I must first make the proviso that Northern Ireland remains essentially Irish. Parts of the Six Counties are markedly different from the rest of Ireland but, even when they are least typically Irish, they are still not mistakable for England or even for the Lowlands of Scotland. The nearest approach to England is the Suburbia of Belfast, but even there the vistas of hideous villas end in an amethyst mountain—the Black Mountain or the Cave Hill—and the growths of lath and plaster and shiny brick are redeemed, when the sun comes out, by a benediction of light (owing to the moisture in the air the sunlight in Ireland is lavish in rainbow effects, delicate and ever-changing).

Belfast is of course the bridge-head for England, and the English visitor who wakes up when the boat has already docked in the Lagan may well dismiss what he sees as some-

thing he has seen before. Just another industrial city, only more sodden than most. But Belfast is *not* just another industrial city. It is a town—if I may speak personally—that I have only lately forgiven for being my birthplace, but it is a town of character. The shopping centre is as undistinguished as the shopping centre of Birmingham and there is only one conspicuous (if soulless) municipal building; Belfast proper is the working-class streets, the factories, the shipyards. It is a city built upon mud and supported on enormous piles (if I were a 17th-century poet I would elaborate a conceit about this basis of mud) but it is flanked by the beauties of the hills and the beauties of the shipyards. Yes—I add quickly—the shipyards *are* beautiful; if you don't think so, go and see. These steel cranes and gantries and vast criss-crossings of iron have, in this setting, more than a functional beauty; in the chameleon and melting air of Ireland they have taken on a romantic glamour which more properly belongs to mountains or ruins or lonely copses of wind-swept trees.

Harland & Wolff (the name of the great shipbuilding firm) is, for the Northern Irishman, a name of magic. The magic, I admit, was wearing thin in the pre-war decades and the name had overtones of tragedy; skilled workers, born to the shipyards, were standing idle day after day, week after week, month after month; standing at the street corners in shiny blue suits or dungarees, with cloth caps on their heads and iron slots where they should have mouths; looking at the world out of hard blue eyes and spitting sideways, quickly,





*Belfast Telegraph*

*The Antrim Coast on a fine day—headland swinging out beyond headland in a moonstone distance*

contemptuously, to punctuate their boredom. The world-without-end hour of Unemployment.

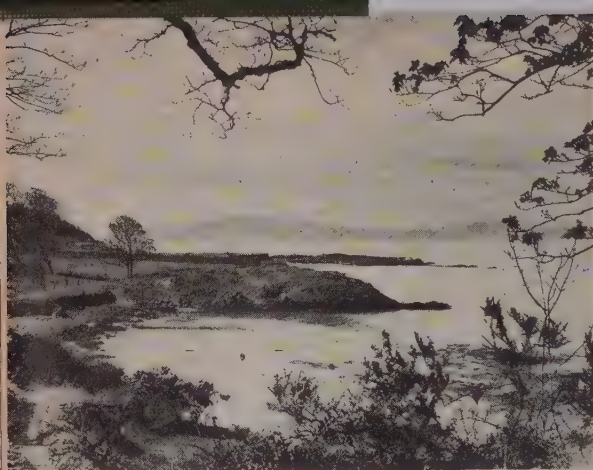
The stranger to Belfast quite often cannot take it. He sees on the one hand the crass and wealthy suburbs whose only values appear to be commercial, and he sees on the other hand the slums—a good deal slummier, more malodorous, more cankerous than their English counterparts; he sees an infinity of dour faces—suspicious, unyielding, apparently embittered—and he hears a babel of harsh or desolate voices, cursing or whining or jeering but in any case unintelligible; so the stranger shakes off the dust—or, more probably, the mud—of Belfast and says “It’s me for Dublin”. A very natural reaction, but that is not all the story. The Belfast people are hard to know, but they have vitality and they have—what is more surprising—goodwill. Watch them in the snugs in the pubs (the Belfast pub is dark and foul and no one minds where he

spits) and you will find that mixed with their obsession with money and their strange sadistic sense of humour these hard-faced rasping men have also a basic generosity and even a moral sense.

If you want to feel the physical presence of Belfast, you should take the following walks: through the grimy streets behind the quays; through the slum district of Ballymacarett; through the York Street district where they used to have the shootings and where now they have the bombs; and up the Falls Road, which is out of bounds to the military because it is full of Republicans. In the Falls Road you will notice slogans on the walls such as “Up the I.R.A.”, and elsewhere you will notice slogans attacking the Pope or extolling King William; the Belfast man is handy with the chalk from his childhood.

\* \* \*

Ten miles from Belfast on the northern side of Belfast Lough is the earlier county capital,



1

*Belfast Telegraph*



2

*Ralph Keene*



3

*Ralph Keene*



4

*Ralph Keene*

1. Belfast Lough from the shore of County Down. 2. Carrickfergus Castle, of pivotal importance in history when Carrickfergus was a bulwark of English rule and Belfast was still unheard of. 3. A Celtic scarecrow guarding the cornfields. 4. A North of Ireland cottage; notice the pile of turf

Carrickfergus, a dirty little town but very historic. Living there as a child I acquired a romantic sense of history and, with it, a hatred for Belfast; we could see the gantries of the shipyards ten miles away up the Lough, and for me they represented the powers of evil—to use Blake's words, dark and satanic. In our own parish there were half a dozen linen mills, their hooters competing with the sirens of passing steamers, and these mills—and still more the crowds of shawled mill-girls they vomited forth in the evening—frightened me

and made me homesick for a world I had never lived in: an idyllic, rural world, a pocket of the Middle Ages. Such pockets of course were to be found within a few miles (Ireland, even the North, being still largely medieval), but I never myself as a child escaped from the sound of the hooters.

So I took refuge in our local history. Carrickfergus, as I said, is a dirty little town, known to sailors as Smoky Carrick. The streets are narrow and shrill with barefoot children; the houses are faced with cement



## REMEMBERING NORTHERN IRELAND

and painted various colours, all of them drab and morose. There is one part of the town called the Irish Quarter—a reminder that the place was once an English outpost and garrison and that the local Irish were kept in a kind of ghetto. In this Irish Quarter the houses even today are mostly low thatched cottages with blotchy whitewashed walls and half-doors to keep in the 'bairns'; the floor level of the sitting-room is below the level of the street, and from the street you look down into a gloomy cave where poverty is dense in the air and a tabby-cat sits in the glow of the range.

But history? This was once a walled town, a bulwark of the ruling English against the rebellious natives. Today there remain a castle and a church built by the Norman conquerors. My father being the rector, I found his church—badly restored and furnished though it was—pregnant with romance; when I went there as a little boy, the sense of history was as strong as the smell of gas (for the gas was always leaking), and I used to stroke the walls, made of unshaped stones and crumbling mortar, with an animal pleasure and take a more pedantic pleasure in trying to pick out the inscriptions on the great Elizabethan monument. This occupies the whole end wall of a raised transept and is a monument to the Chichester family who were once the great people in these parts. The marble father and the marble mother, both very large and ruffed and serene, kneel opposite each other on marble cushions, praying, and between them, like a suet roll, lies a marble baby; down below, where you can touch him, is another Chichester, beheaded by the rebels; I used to look at his marble curls, shiny and soiled from visitors' hands, and think how odd it was that this was the head they took off.

\* \* \*

As for the castle, it is all that a Norman castle should be. The massive keep, on a rock at the head of the harbour, dominates the town and its four-square dignity is enhanced by the insignificant buildings below it and by the thin factory chimneys trailing smoke in the background. For this part of County Antrim is one of the seats of the linen industry, the mills being dumped at random in emerald fields; the nearest mill to my home was opposite a 'fairy mount'. I do not think

it is correct to describe this district as industrial. There is no Black Country in Ireland, for the grass dies hard and the population for the most part retain the mentality of farmers. When the Southern Irish speak of the Black North they are thinking either of Belfast or of the dourness of the Northern character. The Six Counties are still a land of farmers.

Rather primitive farms, compared with the farms in England. There is usually a white-washed square house which you approach up a long muddy lane between dripping hedges and across a farmyard that is ankle-deep in mud and noisy with turkeys and a militant collie—not a show collie, of course, but a pleasant intelligent beast with a round head. Two things in particular make the Irish farm different from the English; one is scale and the other is climate. The holdings and the fields which compose them are, on the average, far smaller than in England; the seven-acre field is a rarity while the one-acre field is very common. These little fields, being divided from each other by hedges or walls of loose stones and planted with different crops, make the countryside look like a patchwork quilt. This difference of scale appears again in the way Ulstermen deal with their hay; instead of building it in stacks they leave it scattered through the field in a number of small cocks not much higher than a man; these cocks stand out in the rain, often through the winter, getting more and more sodden and grey; from a distance such a hayfield looks like a patch of sprigged or tufted cloth. And the rain it raineth every day; the stories of Irish rain are not, in my experience, exaggerated. They will tell you it is a fine day when it is sunless or even drizzling. Nothing can look drearier than parts of Northern Ireland under steady rain; once the sun comes out, or even slips out a finger, you get a pantomime transformation scene—shot silk over the fields and a dance of diamonds in the hedges.

\* \* \*

There are certain things in Northern Ireland the guide-books tell you to see—the Giant's Causeway, the Antrim Coast Road, the Mountains of Mourne—the sort of things the Americans call 'scenic'. If you like the scenic, these places give you your money's worth; drive along the Antrim coast on a fine day, headland swinging out beyond headland



Ralph Keene

*Lurigethan, a remarkable hill in the Glens of Antrim. Notice the patchwork of its slopes and the haystacks in the foreground*

in a moonstone distance, and you will find yourself drunk with geology. But this is a tripper's pleasure. The best way to treat this romantic indented coast is to stay in one of the indentations—dig yourself in and fall asleep. I was staying in this way at Cushendun in August 1939. It was almost frighteningly peaceful; fragrant with burning turf and luxuriant with late summer flowers. The weather was unusually fine; every night Jupiter shone brightly in the east, making a stain on the bay; behind our house to the west the moors above the glens were like animals asleep—placid bears with thick dark fur. A Hungarian refugee, seventy years old, had just arrived in Cushendun on his first

visit to Ireland. I asked him what he thought of it. "*Ein Zauberland*," he said, "*Ein Zauberland*." A fairy land.

Being Irish myself, I tend to soft-pedal this 'fairy' element, the over-picturesqueness of parts of County Antrim and County Down. I tend to think rather of the less sensational landscapes—of the flat quiet shores of Lough Neagh (the largest but the least picturesque lake in Ireland) or the fat farm-lands of County Armagh or of County Tyrone or any little piece of umber bog or of lush pasture—pictures no tourist would paint, places that no one would write home about. For example, during the first months of the war I used to stay in a cottage about two miles from Porta-





Ralph Keene

*Horses in the heather on the moors above Cushendun. Dynamic clouds breaking on lonely hills—this is something you often see in the Glens*

down, a squalid, sombre little town engaged in the linen business. The country here—in County Armagh—has a muted appeal which it is hard to analyse. Except in the early morning and at twilight, it has little obvious charm. Its asset, I suppose, is that it is *unperturbed*; the roads are narrow and lazy; there is nothing that hustles you, nothing that clamours for your attention; County Armagh just ambles away into County Tyrone, and Fermanagh takes over from Tyrone this sleep-walking tempo and there is nothing dramatic until you get to Lough Erne.

\* \* \*

Having been brought up in this part of the world, I am loth to make generalizations

about it. I have never seen it in perspective as a native of somewhere else. When you say the words 'Northern Ireland' to me, they do not call up any concept or series of concepts I can label or classify or plump into categories. I hear some Orange drums echoing in the hills or water from a bramble hedge pours down my wrist as I reach for a cluster of blackberries. *Disjecta membra*. I might think, for example, of the gate-posts. Very characteristic—those gate-posts. The North of Ireland field is usually entered through a wide iron gate hung between two massive cylindrical whitewashed pillars, built of rough stones and ending in a cone; these pillars are at least three feet in diameter and it gives you a com-



*Very characteristic—those gate-posts. Here the gate is still on its hinges! The landscape too is very true to agricultural Ulster. Whitewashed farmhouses like the one in the background make a vivid contrast—but not a clash—with the fields*

*Ralph Keene*



*The narrows in Carlingford Lough, the long arm of the sea which divides Ulster from Eire. In the foreground is Narrow-Water Castle. This lough in a quiet way is very beautiful, with the Mountains of Mourne on its north side and the Carlingford mountains to the south*

*Belfast Telegraph*



*A busy scene from Ardglass in County Down, centre of the herring industry. From the days of St. Brendan, Ireland has held stocks in the sea. Ardglass is a strong-smelling little town but it has its glamour for anyone who is sea-minded*

*Ralph Keene*



fortable shaggy feeling when you think that someone has bothered to build such a ponderous entrance to a tiny scrubby field of ragweed and thistles that contains perhaps nothing but hens; often the gate is off its hinges, and in any case the hens can get out between the bars.

I might think again, if you say the words 'Northern Ireland', of a typical scene from the coast; a little limestone pier looking quite unused; there are rusty anchors in a corner, hoary fishing-nets and lobster-pots; there is a row of iron bollards with the paint flaked off; no one is in sight; only a plump gull struts on the wall and the seaweeds gurgle down below and tug to get away. Or I might smell what you smell when you cross the hill above Ardglass. Which is herring; it hits you in the nostrils and knocks you, as they say, for a loop. The women gutting herring on the jetties have their sleeves rolled up and their arms are more shiny than the Queen of Sheba's; radiance of fish-scales.

The North of Ireland? Flash-backs of gaudy colour. A vermillion cart, picked out in blue, descending a hill with the drag on between banks of riotous whins. Or—under the Mourne Mountains—a hedge of fuchsias against a whitewashed cottage. But more of the pictures that come to my mind are *piano*: a brown pool in a misty bog or a low hill chequered in different shades of green.

Thus I remember in particular a scene in the narrows of Carlingford Lough (the salt lough that divides Northern Ireland from Eire). I was due to return to England for the first time after the declaration of war and had had myself rowed over to County Louth for the symbolical pleasure of setting foot in a country that was still 'at peace'. It was late afternoon when they rowed me back. The Mountains of Mourne in front of me and the Carlingford mountains behind me had taken on an ethereal unreality; the water between them was grey and noiseless and standing on a sand-spit was a heron, standing on one leg, dressed in half mourning, motionless as a saint on a pillar, sadly assured, ignoring all things. That heron, I feel, is more characteristic of the country than any smoke-stack or any steel crane.



*Belfast Telegraph*

(Above) *A vermillion cart descending a hill with a load of turf for fuel. (Below) A radiance of fish-scales: two girls, probably from Scotland, gutting the herring at Ardglas.*

*Ralph Keene*



# On a Cuban Tobacco Farm

by ELAINE BICKERSTAFFE



*Black Star*

UNLIKE the vast sugar plantations which cover the eastern extremity of the island of Cuba, the tobacco farms are often small, ranging from three to twenty acres in extent, though there are also big administrative estates run on almost patriarchal lines. The tobacco crop is said to have the greatest value per acre of anything that comes from the soil, and it calls for a vast amount of intelligent labour and intensive care. A farm of only twenty acres will require the attention of perhaps ten men, each devoting his entire time to two acres.

The plant in Cuba is a winter crop, the summer months being those of high rainfall, and the early autumn sees great activity in the supply barn where ploughs and watering-pots and bales of cheese-cloth are marshalled in long rows. Fertilizers are also put ready in huge sacks, and bags of tobacco seed, so microscopic that it takes 400,000 of them to weigh an ounce, are then hauled off to the specially prepared beds and sown so close together that they sprout up as compactly as grass on a

lawn. About a month later, they are ready to be transplanted to the fields of their final growth.

Lazy oxen swinging along drag behind them crude wooden ploughs. Swarms of birds follow, swooping down after insects and worms. A boy drops a small plant at regular intervals and on his heels comes a man or woman setting the seedlings in position in rows, one to one-and-a-half feet apart.

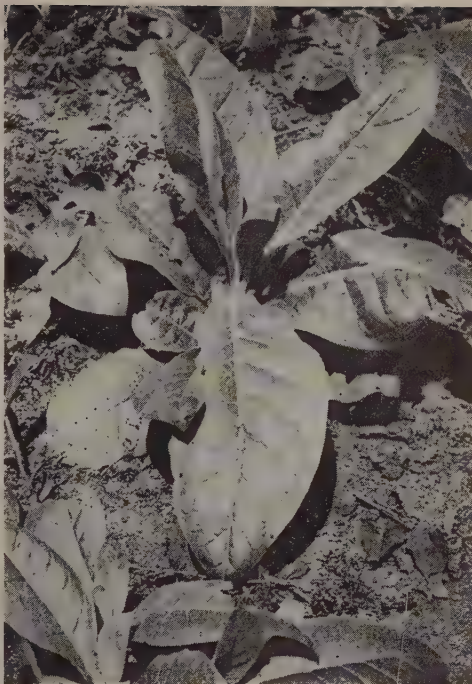
During the next few weeks as the plant shoots up, the soil is kept scrupulously clean, and from the time of its transplanting to its final ripening, the tobacco itself is tended as carefully as a hot-house plant, watered if necessary, examined leaf by leaf for insects, and pruned by picking off the terminal bud to keep the strength back in the leaves. Side shoots are also removed for the same reason. Overhead cheese-cloth, spread on a forest of supporting poles, shelters it from both sun and rain.

In February or March, that is three or



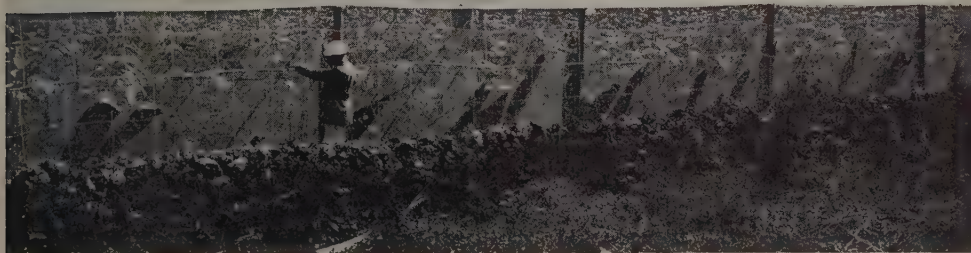
four months after sowing, the tall plants wave everywhere in the breeze. If the leaves tested by an expert give the right 'snap' when doubled at the midrib, they are ready for picking. They are cut into sections with two leaves to each section, hung on poles and taken to the drying sheds. Meanwhile, seeds for the next planting have been secured by bagging; that is, enclosing the terminal cluster of flowers in a waxed paper or muslin bag to prevent cross-pollination.

Curing the leaves is yet another process demanding expert attention. In the great barns where the air circulates freely, the leaves are suspended in large racks for from three to six weeks. Gradually they turn yellowish brown and become tough. They are then piled on the floor in a solid stack to a height of five or six feet, to start the true fermentation which develops the aroma and bouquet of the leaf. A certain degree of moisture is necessary for this process, and the temperature of the mass steadily rises till it reaches 130° F. From



*Black Star*

*A young tobacco plant or shoot almost ready for transplanting to the tobacco field. (Below) The field, covered with cheese-cloth, to protect the plants from insects and temper both sun and rain*



*E. N. A.*



especially in the eastern section in the valley through which the meandering Mayarí river comes down to Nipe Bay. For this region, which still produces a famous crop in little fields laid like patch-work along the water's edge, is reputed to be the oldest tobacco-producing

area in Cuba. Under Spanish rule, the tobacco produced during the 16th century was spread over the central and eastern sections of the island.

Extensive commercial production of tobacco did not, however, begin until the early 17th century, by which time the leaf was becoming known and used in all civilized countries. The demand for it spread rapidly in spite of papal fulminations and penal enactments, and tobacco culture became a leading industry. Soon a few Cuban growers had taken up their quarters in the western hills and were vigorously contesting the vested rights of the cattlemen of the district and doing a roaring trade with visiting pirates.

Organized government came to Pinar del Río in 1774 after the supply of tobacco in Spain had, apparently for the first time, exceeded the demand, and quality rather than quantity began to be considered important. The superb quality of the Pinar del Río leaf was immediately recognized, and its production since then has been continuous except during war periods. Today fully two-thirds of Cuban tobacco comes from that province, the remainder from scattered regions all over Cuba, but more particularly the provinces of Havana and Santa Clara, and the Mayarí Valley in

time to time the pile is taken down and rebuilt, to secure a uniform action, and in from three to five weeks the leaves are of a pleasing brown colour, free from the bitter tang of the uncured leaf, and ready to be graded and taken to the warehouse, where they may be 'aged' for two years or more to improve their mellow flavour.

Although Pinar del Río is the most favourable district for growing tobacco in Cuba, it is not the only or even the oldest producing centre. For centuries the plant has flourished on the island, and it was here that Columbus on his first voyage to the New World in 1492 first learned of the curious habit of smoking. He had sent his messengers inland to greet the supposed ruler of a supposed great Asiatic hemisphere. Washington Irving thus reports the story as it was told by Navarrete, the Spanish historian. The messengers, he says, returned with tales of seeing "several of the natives going about with firebrands in their hands, and certain dried herbs which they rolled up in a leaf and, lighting one end, put the other in their mouths, and continued exhaling and puffing out the smoke. A roll of this kind they called a tobacco; a name since transferred to the plant of which the rolls were made. The Spaniards were struck with astonishment at the singular and apparently nauseous indulgence!"

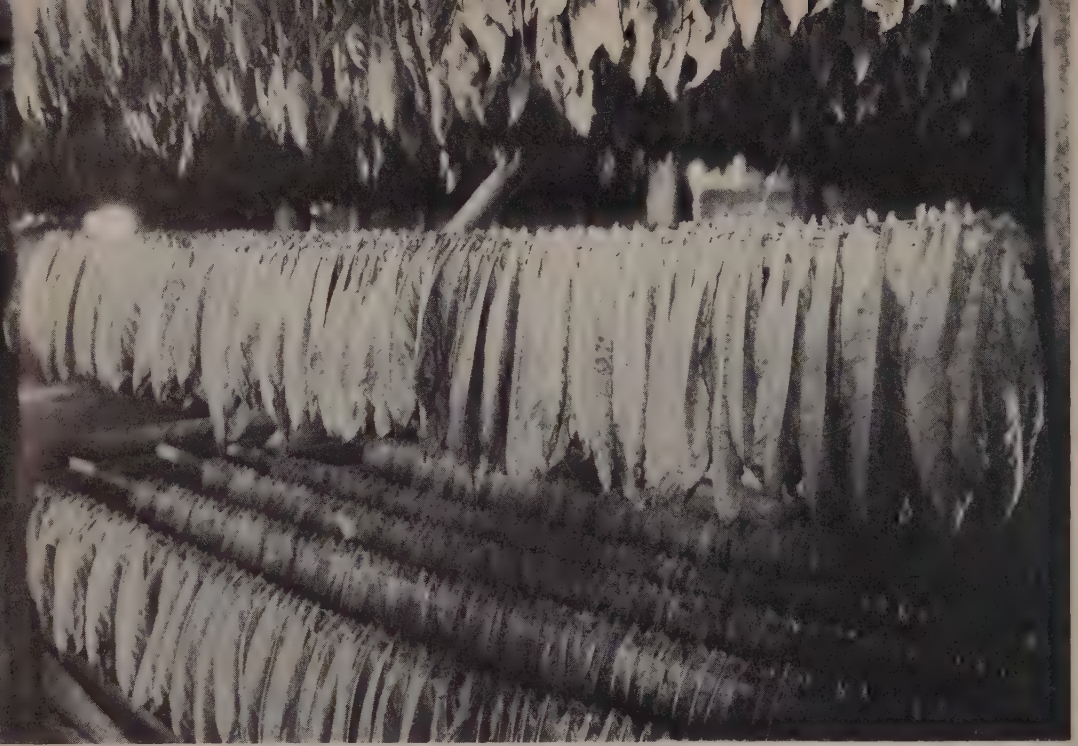
Exactly where the plants then smoked were grown is not known; probably in scattered regions of the island, perhaps

*About three or four months after they are sown the tall tobacco plants wave everywhere in the breeze; when their leaves, doubled at the midrib by an expert, give the right 'snap' they are ready for picking*

*Black Star*







*By courtesy of Secretaria de Agricultura (Tobaco) Habana*

*In great barns, where the air circulates freely, the tobacco leaves are suspended in large racks for from three to six weeks. This is the 'curing' process. Gradually they turn gold and get tough. They are then stacked solidly on the floor to ferment, which develops their aroma and bouquet*

*By courtesy of Secretaria de Agricultura (Tobaco) Habana*





Oriente. Since 1887, the cultivation and trade which was at one time a monopoly has been free, subject only to taxation.

Just why the leaf grown in Pinar del Rio and notably in the Vuelta Abajo district is so superior has puzzled agriculturists and scientists alike. Nor is all the tobacco produced of the finest grade, although most of it is of high quality. There are small areas which are better than others and the story is told that when a railway was to be built through the district, it was for that reason almost impossible to buy enough land for a right-of-way. "The owners", says one writer, "were most averse to selling even a strip of their tobacco farms, and one of them agreed to let the road cut his property only upon the payment of a high price and the condition that he should be allowed to scrape the soil to a depth of one foot off the land taken by the road. This was agreed to and done, the rich earth being spread over a less fertile area."

Analysis of the soil does not, however, reveal any special virtue. Here, as elsewhere in Cuba, tobacco is grown on a loose, red soil, rich in clay and silicates. Nor are the seeds used different from those in other parts of the island. Yet the astonishing fact remains that the same tobacco tried elsewhere is not so successful, even when soil and climatic conditions appear similar, while other tobaccos transplanted here acquire a quality not known elsewhere.

Incidentally, the tobacco plant grown in Cuba nowadays is something of a mongrel, and the original *Nicotiana Tabacum*, variety *Lavanensis*, can probably be found pure only in remote corners of the island. After the Ten Years' War of the late 1860's and early 1870's, seeds from Mexican plants were used in the rehabilitation of the ruined *vegas* and in spite of later laws ordering the destruction of these Mexican tobaccos, *Nicotiana Tabacum*, variety *Macrophyllum*, which has a high nicotine content, still predominates although it has improved in the Cuban environment.

Another war, the Spanish-American,

was responsible for the growth of the leaf under cover. The idea is said to have originated in the United States and to have made its way, slowly, into Cuba where planters long considered that tobacco grown in the open had a better aroma. In the shade product, however, the leaves are finer in texture and lighter in colour and weight, and yield an increased number of 'wrappers' which are the most valuable of all.

Wherever the tobacco is grown in Cuba and whatever its quality, most of it finds its way to Havana, whence some of the leaf is shipped direct to the United States, the import duties being less than on the finished product, and some is manufactured into cigars in the great factories for which the capital city is famous.

The leaves arrive in large bales of about 100 lb. each, wrapped in yagua, the base of the leaf of the cabbage palm. In order to make them soft enough to be handled without breaking, they have to be slightly damped. They are then sorted by competent workers, and the best leaves picked out to be used for wrappers, of which three are required for each cigar.

The stripping is carried out in large workrooms by hundreds of women who, with lightning rapidity, tear the midrib from the blade of the leaf. The separate sections are then trimmed into oblong shapes with a sharp knife and small pieces are taken to the drying-rooms and kept at a high temperature for several days. These small pieces form the foundation of the cigar, after which a large oblong leaf is wrapped skilfully around the little bundle and the end closed by means of glue. A second large leaf is then wrapped around, and finally a third, the ends again being fastened by means of glue, after which the cigars are heated for a few days.

It is a fascinating sight to watch the workers, both men and women, rolling the cigars. Most of them have been doing it since their 'teens, and their motion becomes purely automatic, since one person works on the same kind of cigar year in and year out. Custom does not seem to



By courtesy of Secretaria de Agricultura (Tobaco) Habana

(Left) Girls preparing the leaf for the cigar manufacturer. They are deft workers, fascinating to watch. (Right) The last stage: when completed, the cigars are carefully sorted and graded

make them stale, however. Moreover, a relief from possible boredom is provided in the larger factories in the form of a reader, paid by the employees themselves, who entertains them for several hours a day. Perched in a little gallery above the room, he rolls out in sonorous tones extracts from the newspapers and fiction of various kinds, *Don Quixote* being a favourite choice.

The cigars are carefully sorted according to size and strength, which is estimated by their colour, in a scale of increasing strength, as *claro*, *colorado claro*, *maduro* and *oscuro*. They are packed into cedarwood boxes in quantities of twenty-five, fifty or even a thousand, and placed under a heavy weight for several hours. Back in the workroom again, these boxes are closed, stamped and marked.

Only those cigars actually manufactured on the island are the genuine (*legitimas*) Havana cigars. Those made elsewhere

from genuine Cuban tobacco are claimed as Havanas. The best are, of course, of the finest Vuelta Abajo leaf, rolled when it is just half dry, and never artificially damped at all. Below these are the tobaccos from such districts as Manicaragua and Remedios of Santa Clara, or Mayari of Oriente, the description *de partido* being applied to the leaf not produced in Havana and Pinar del Rio, and sometimes to all produced outside the Vuelta Abajo.

More than 400 years have elapsed since the earliest Spanish explorers found tobacco growing in Cuba, and Cuba still ranks high as a producer of tobacco in quality of leaf, if not in quantity of output. It is the island's second major industry. According to the statisticians, about 60 per cent of Cuba's export trade is in sugar, 30 per cent in tobacco, and for a bumper year the tobacco crop of 4 million lb. was valued at something like £14 million.



# In Spanish Morocco

by J. HOLMAN MASON

*The history of modern European penetration in Morocco is confused and not generally understood except by specialists. Mr Mason, who has travelled through the country since the outbreak of the present war, gives a brief account of it, with special reference to the Spanish section, and describes the material features of a territory that may yet play an eventful part in the shaping of world events*

MOROCCO was, until a generation ago, the least known of all the lands bordering on the Mediterranean, for the face it turns upon the Inland Sea is a precipice of high and rugged mountains and its Atlantic seaboard, devoid of any good natural harbours, had been for centuries a lair of pirates. It is true that 500 years ago the Portuguese obtained a foothold at Ceuta opposite Gibraltar, and that they soon afterwards occupied both Tangier on the Strait and Arzila on the Atlantic. Tangier was ceded to us in 1662 as half of Catherine of Braganza's dowry. It was evacuated by us twenty-two years later. The Portuguese had had to give up Arzila after the crushing defeat suffered by their King, Dom Sebastião, in 1578 at Alcazar-

quivir. Ceuta, retained by the Spaniards after the Portuguese had thrown off the Spanish yoke in 1640, remained the sole European possession in Morocco. The Spaniards painfully conquered some other points on the northern coast, notably Tetuan and Melilla, during the 19th century, but Morocco as a whole was an unknown and inaccessible land.

Reports of its natural wealth (much exaggerated) and realization of its strategic importance, however, attracted German prospectors and traders to the country in the early years of this century. To proclaim, in a typically theatrical way, Germany's interest in Morocco Wilhelm II, in 1905, made his state entry into Tangier uneasily mounted on



Stanford, London



*Black Star*

a white stallion from the Sultan's stable. By 1906 the financial and economic position of the Sherifian empire had become so precarious that an international Conference was held at Algeciras, just across the Strait and in sight of the Moroccan shore, at which the predominant interests of France and Spain in Morocco were recognized. In 1912 the French, taking advantage of a more than usually confused situation, landed troops in western Morocco and proceeded to the occupation of much of the country.

After the French had taken over the main cities of Morocco the Spaniards, whose military and political situation was manifestly weak, were induced to accept a much smaller slice than they had formerly coveted and their zone was confined to the Rif and an area to the west extending about as far south as Larache.

What the French made of their Morocco under the guiding genius of Lyautey is common knowledge. The Spanish area has remained less well known. Its importance was, and is, mainly strategic and its acquisi-

tion was a costly present since the war of occupation dragged on for years and was a potent factor in the unpopularity of the Monarchy.

From the Spanish zone an area of about 140 square miles round Tangier, facing both the Strait and the Ocean, was excluded. In this region a queer kind of international republic was set up that was for years the happy hunting ground of every sort of foreigner who felt that he could live more cheaply, safely or with greater dignity in Tangier than at home.

Owing to the war the Spanish zone (to which the Tangier area was added, by occupation, in 1940) has acquired an increased importance. With the exception of Gibraltar the whole Strait is now in Spanish hands (and potentially in those of their friends). Let us see how the land lies.

The great Atlas system of mountains sweeps from south-west to north-east to join up with the coastal range or Rif. Between these two chains and the ocean is the plain that is the only really fertile part of Morocco.





*Black Star*



*Black Star*

(Opposite) Looking down on Tetuan from the roof of the palace. Beyond the houses is the rio Martin and in the background rise the foothills of the mighty Rif mountains. To the left is the sea. Tetuan, captured by the Spaniards under O'Donnell (afterwards Duke of Tetuan) in 1860, is the administrative and economic capital of Spanish Morocco. The souks or bazaars are some of the most extensive in North Africa. (Top left) A main street in the souks. In summer the trellis street-covering is overgrown with creepers and men can walk in a grateful and ventilated shade. (Top right) City-dwelling girls are veiled from about the age of 11 or 12. Here is a little girl carrying her brother in her arms attended by a negro serving-maid. Negro blood is very noticeable among the townspeople in all Morocco; it is due to the generations of slaves imported from the Sahara and the Sudan. (Right) A view of country folk selling their produce. One woman is wearing a cartwheel hat and beside her is a hooded peasant man



*Paul Popper*



Black Star

*An uncommon sight: a herd of swine, kept by Spaniards. The stunted oaks on the hill slopes provide acorns. Of course no Moslem will touch a pig*

Almost all of this plain is in the French zone. It narrows as it goes northwards, and once past the Franco-Spanish line of demarcation the hilly country starts that reaches right to Cape Spartel and Tangier. It is, however, hilly only towards the Atlantic, inland the hills soon merge into the mighty mountains of the Rif.

This mass of the Rif makes up the major part of Spanish Morocco, or Barbary.

Tetuan was, and is, its capital, for Tangier has been left with a special régime, notably in currency matters.

Tetuan is beautifully situated on the shores of the rio Martin, some way from the sea. Seen from afar, the city has a most romantic appearance. Inside is dust and poverty, though the bazaars are colourful and the town is overhung by a great porticoed palace.

Not only the Spanish High Commissioner but the Khalifa or Viceroy of the Sultan resides at Tetuan. This puppet prince is the

cousin of the reigning monarch and lives surrounded by his Court with his Grand Vizier, his Black Guard and his Khalifian cavalry, a miniature king. Time and again he has been 'groomed', as the Americans say, as a possible successor to his cousin should the Spanish hopes and the German schemes for the ousting of the French from Morocco be realized. There is in Tangier another potential sovereign in the person of the former Sultan Abd-al-Aziz. He was forced by the French to abdicate in 1912 but is still only in his sixties. His Majesty lives in a luxurious villa just outside Tangier and may often be met with threading his way through the *souks* alone or with one companion. All rush to touch his shoulder, kiss his hand or the hem of his robe, for the *baraka* or immanent virtue of his Sherifian descent and of his royalty still resides in him. It is possible that his rôle may be a more important one in the future.





Black Star

*The only railway in the Spanish zone is the main line, from Tangier to French Morocco, but lines of buses run right through the country, packed with Moors and Europeans*

Northward from Tetuan you can follow the flat sea-shore for miles until you get to Ceuta, built round a high hill joined to the mainland by a spit of sand. Ceuta has nothing Moorish about it for it has been a European possession for more than 500 years. It is just a characteristic south Spanish town.

Stretching westward from Ceuta is the rocky southern shore of the Strait, now a strictly prohibited zone since all along the coast, and especially round about Ksar-es-Seghir, the Spaniards have built gun emplacements, landing fields and fortifications.

Eastward from Tetuan the land rises rapidly and soon the Mediterranean shore is fringed by the sheer cliffs and precipices of the Rif. The coast is dotted with villages communicating with the interior by goat-paths. Farther along the shore are the towns of Villa Sanjurjo and Melilla. The latter, like Ceuta, counts as a piece of metropolitan Spain, and both towns are on the main road that drives

right through the heart of the Rif and forms the only east-west land communication of the Spanish zone.

In all these towns where Spaniards and Moors dwell side by side the one thing that strikes observers is the similarity of type between Moor and southern Spaniard.

The road through the Rif is of wild beauty. There are few towns and not many villages, but about forty miles south-east of Tetuan you come to Xauen, a 15th-century city originally peopled by refugees from Grenada so that it has been called *Grenada la Chica* although it has nothing of the sumptuousness of Moorish Spain's last capital. You cannot see the town until you are upon it, so cunningly is it hidden in the fold between a hill and a high mountain cliff that rises sheer behind, dwarfing Xauen to the proportion of the pillared tombs in the western hills at Thebes.

The population of Xauen had lived in such

isolation that in 1920 the native Jews (the town was full of them but they have now nearly all departed to more profitable ways of life) shouted to the Spanish troops as they entered "*Viva la Isabela*," for Columbus's Catholic Queen was the last sovereign of Spain whose name they knew.

After Xauen the road winds up and on among barren mountains dyed all sorts of hues in the afternoon light. Here and there is a *douar* or Berber-style village with thatched huts and high fences of prickly pear: here and there a small whitewashed mosque with a tiny minaret stands out amid a patch of verdure high up on the hillside like one of the hill villages of the Appenines. As you rise higher and higher your eye stretches over rolling ranges with never a sign of human habitation. The road swings from one valley to another and still higher up until the trees begin. As the shadows fall the century-old pine trees make fantastic, Japanese patterns across the darkening sky. Running through the cedar forests you approach Ketama, 7000 feet up, and the countryside looks Alpine even in summer. Bracken as high as a man sprouts under the moss-grown cedars and there are delicious walks on the grassy slopes.

Ketama until a few years ago was just a camp, and even now there is little building except the *parador* or country hotel, built onto what was once the barracks. Before the hotel is the great flat meadow known as the *Llano Amarillo* (Yellow Plain) where General Franco raised the standard of revolt in July 1936. The 'Movement' is commemorated by a huge, ungainly obelisk.

To the north of it the land sinks to a great chasm, filled at morning and evening by mists, but in the daytime stretching away to the distant mountains that border the sea. There is nothing so fine farther on towards Melilla and the frontier.

Southward from Tangier the only really first-class highway in Spanish Morocco leads towards the French frontier. You cross the former International Zone diagonally south of Cape Spartel and are soon only a few miles from the sea-shore that is here bordered by dunes and marshy ground. Between the road and heath that merges into the dunes is the so-called 'Diplomatic Forest'. The shore or 'Diplomatic Beach' here is the best

fitted for the landing of a sea-borne force, the strand is wide and the sand is firm and the Spaniards have lately made causeways from the dunes across the heath.

You run parallel with the sea until you come to Arzila, still girt round with its old Portuguese walls. The rolling countryside is bare of trees but it is green for six months of the year, and herds of goat and sheep and the little cattle of Barbary feed on the coarse grass.

A little farther south, at some distance to the east of the highway, is one of the few megalithic monuments of Morocco. The M'zora mound must once have been an imposing thing with its containing circle of high stones, but the Spaniards, for some reason, have cut right through the barrow.

Larache, the last Spanish town on the coast, is an overgrown and empty place, but it is the natural outlet for the produce of its hinterland, the only part of Spanish Barbary that can be called at all fertile. From Larache the road leaves the coast, which by this time is all marshy, and cuts inland to Alcazarquivir, almost on the French border.

The Spanish zone and the Tangier region are full of soldiers—Moorish and Spanish. The high command appear to have more trust in the former, who are certainly the better equipped and found. Outside Tangier Spanish soldiers may be seen in ragged uniforms; they are inclined to beg from you if no one is looking. Inside the city the men are furbished up a bit. It must be admitted that order is well enough kept.

You enter Tangier from the south between the high white walls of cemeteries that lead to the *Zoco Grande*, and here you must leave your car and wander on foot. The large square is filled with country men and women crouching over their wares. They are infinitely patient and will sit from dawn until

*The city of Xauen set against a background of sheer rock. The place has changed very little in the last 500 years although there is now quite a comfortable hotel on the main plaza. The old Moorish citadel is a little ruinous but still imposing. At the back of this photograph the minarets of one of the severely plain mosques of Barbary can be seen*

*Black Star*





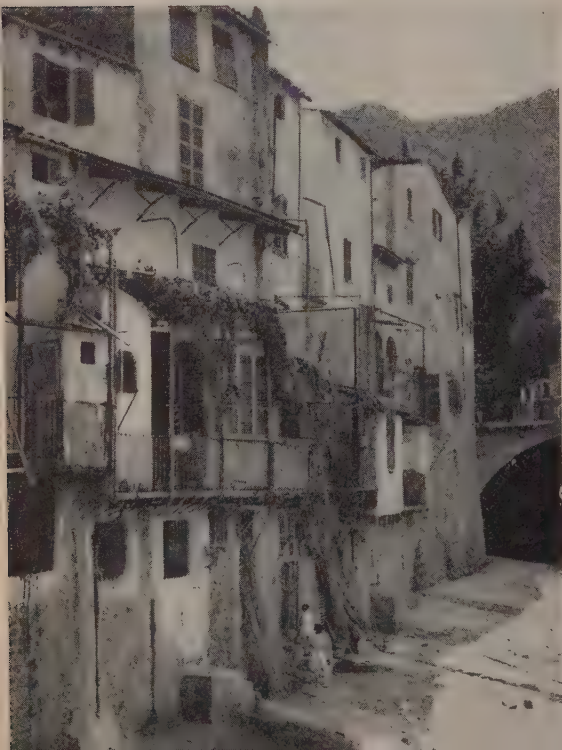


*Black Star*

*A corner of the main plaza in Xauen is shown above. The storyteller is a familiar figure in Moroccan towns where the population is illiterate. Below, on the right, are the Mehalla barracks in Xauen. (The Mehalla is the Spanish-officered Moorish army.) On the left is the façade on the wadi at Ceuta, a town which has been Portuguese or Spanish since 1415 and has nothing Moorish about it*

*Paul Popper*

*Black Star*







*Black Star*

(Above) Native Moroccan cavalry of the Spanish army on the cliffs westward of Ceuta. The dimly-seen mountains in the background are part of Spain. (Below) The famous rock of Gibraltar as it appears to the fishermen hanging their nets on shore just across the Strait at Algeciras



*Black Star*



*View of Tangier from the deck of the Spanish steamer that plys daily between Tangier and Algeiras. The boat is alongside the new mole. The entrance to the old harbour can be seen just below the panorama of the city showing the extension eastward of building in recent years. To the right the land slopes up to the Kasbah or old citadel with the native city clustering about it*



far into the night. The women are unveiled and their heads are crowned with immense cartwheel hats—they are a likeable lot and as different as may be from the city dwellers. Many of the women's faces are broad and frank, and often reminded me of Egyptian sculptures of the Middle Kingdom. All about are masses of flowers almost devoid of scent, and multicoloured vegetables almost devoid of flavour. (The only really good and savoury food is the fish, but for some reason the catch is not as abundant as in Portugal to the north or off the Atlantic coast farther south.)

Tucked away in the native city is the American Legation whose buildings were the gift of a former ruler to "Sultan George Washington," and the only foreign representatives in Morocco who have prestige and real influence are the American. The Washington government not only has refused to recognize the Spanish occupation of Tangier but it accorded only a *de facto* recognition to the French and Spanish protectorates. America has retained all her old capitulations and extra-territorial privileges that we and other Powers—now represented in Morocco by mere consuls—so recklessly gave up in exchange for fallacious French promises of economic advantage. The entry of the United States into the war means that they have an important part to play in the key-country of Morocco.

You push through the throng in the narrow *rue des Siaghines*, elbowing your way past fantastically overlaid donkeys, Jews in black *jellabas* and skull-caps, Moorish women in voluminous white *haïks*, and men of all ages and colours—and so you get to the *Zoco Chico*, the stage for which the rest of Tangier is the theatre. Inside a café a Czecho-Hungarian band plays so loudly that everyone in the little hunched-up square must shout. A thousand odours assail you, figures glide in and out of the side streets and are lost in the gloom. If you sit down, two Jewish bootblacks will each seize a shoe, at your side will be German refugees, stray Frenchmen, a pair of pathetic old Russians, Hungarian dancing girls (there are plenty of them in Tangier and they are the most attractive women in the place) and Spanish fisher-

men. Darting among your legs are urchins of all ages and every degree of dirt and semi-starvation. Pious men with prayer-rugs under their arms and henna-red beards shuffle by; a man from the hills strides along, his head high, his body covered in a dark-brown *jellaba* sewn all over with tufts of red and blue, and the Moslem women, all veiled, most in the traditional white *haik*, some in the more trim men's *jellabas*, Egyptian-fashion and very daring. You never see a Moorish woman of the really prosperous class unless at a restaurant or at the cinema, and in Morocco there is not any of the cultivated bourgeoisie to be seen in Tunisia, where you meet women in Parisian clothes talking as good English or French as do the Egyptian ladies in Cairo.

At some seasons of the year all the streets are a great fair, such as at Mulud time when the anniversary of the birth of the Prophet is celebrated with much curious local rite. In the processions you may see little bulls covered in embroidered shawls, with gilded hoofs and horns just as in Carthaginian times, while tumblers and mountebanks amuse the crowds.

And at any hour any day you hear the monotonous, insistent but not unhappy chant as a little group trots along carrying shoulder-high upon a lattice-bier a corpse just rolled in a shroud: *Mohammed rasul Allāh*—"Mohammed the Prophet of God"—it is the same tune that the Moslems sing in China, for the world of Islam stretches from Senegal to Sinkiang and beyond.

Such is the face of Spanish Barbary.

It is the most medieval and unprogressive part of North Africa. The Spaniards, with all their good qualities, have neither the experience, the capital, the credit, the technical knowledge, the social discipline, nor, it must be added, the willingness to learn that would enable them to succeed in large-scale colonial administration. What the immediate future of this strip of Africa, so strategically placed, so ill-defended, so economically impoverished, will be it is impossible, as I write, to predict. But the march of world events suggests that it may yet be the scene of developments closely affecting the present conflict.

# A Libyan Camel Market

*The camels come in to market, necks roped together, with a look of obstinate arrogance as if they knew what a precious possession they will become to their future masters. Patience and endurance are the two characteristics most commonly associated with camels: the weird, sneering close-up on the opposite page reminds us that they are also noted for their savagery*

*All photographs from Toni Muir*









*For hours together the camels crouch on the market place waiting for a buyer, a grotesque caricature of human expression on their faces . . . watching the finish of the 4.30?*

*Their Arab salesman squats beside them, humorous, observant, immensely shrewd*











*(Opposite) Mobiloil has many uses: one of the strangest is for beauty treatment of camel-dandies. Standing camels have their legs hobbled*

*Along the sandy patches between the date-palms (above) camels, donkeys, traders and their children make their way home at the end of market-day*

# The Story of the Fens

by DOREEN WALLACE

*To turn the Fens from a wild-fowler's sportsground into some of the best arable land in England has been the work of centuries. Miss Wallace, herself an East Anglian farmer, outlines the story of this great achievement and shows what remains to be done to safeguard so fertile an area from the floods which still periodically threaten it*

WHAT a strange landscape is that of the Fen country! Flatter than the palm of the hand it stretches from horizon to horizon, cut into squares by apparently straight roads, rivers and dykes. For miles you will see no trees but the willow and the orchard trees of villages; you will also notice a dearth of wild flowers. Unless you are travelling on a raised road or standing on a high river-bank, you will see precious little but the next field and the next bank, but if you can achieve some small height, even the top of a haystack, your view will be immense.

Do you admire a view of flatness and rectangles? Believe me, on a fine day you will. There is first the sky; in few places do you see so much sky, and there is something in the East Anglian climate and atmosphere which makes for magnificent cloud effects. In spring the pure blue will be heavily barred by long locks of static cloud, purple on the under-side, creamy on the sun-side, and the flat country below, deep blue on the horizon, will bear the shadow of clouds across its patterned surface, where the pale greens of young corn and roots are broken here and there by dark chocolate plough. In autumn and winter this Fenland sky stages fine sunsets with infinite depths of cool duck-egg green between the gold of the sun's bed and the soft blue of the zenith: and if the floods are out, there is sunset on land as well as in the sky.

It is tragedy when the floods are out—but they are beautiful! Poison to the farmer, meat to the poet and artist.

In these days extensive floods are rare. But there is a certain combination of the forces of Nature which, whenever it occurs, must give rise to acute anxiety. Suppose high tides are driven higher than their normal

level and maintained higher than usual at the ebb, by the pressure of a strong north-east wind, so that the discharge of inland waters through the sluices can only be after several days instead of twice in the twenty-four hours: suppose there has been heavy rainfall inland so that there is more water than usual waiting to be discharged—and more flowing down every hour. Then if there is a weakness in a river-bank anywhere, disaster follows. Men are constantly on the watch, day and night, patrolling the banks after dark with lanterns, like glowworms in the great darkness. And sometimes the water beats them, as in the inundation of 1937.

Banks, sluices? Why, yes, there is a comprehensive and expensive drainage system throughout the Fen area. Rivers are artificially banked: few have been left to their old beds, for it has been found that straightness is a safeguard, hence the ruler-like appearance of rivers and tributaries. Sluices and pumping stations are numerous, otherwise the Fens would not be the best arable district in England today.

It is not long ago, as geographers count time, that the whole countryside was under water all winter, and in summer was little better than marsh grazing. Today the rich black alluvial earth grows marvellous crops—sometimes too marvellous, for the corn stands up so lush and high that a July thunderstorm may lay it low, never to rise again: the heavier the crop, the more determinedly it 'lodges'. But that is a risk many of us would gladly take: for when we on the neighbouring higher land are suffering from drought and can produce only poor, small sugar-beet, beside the Fen roads there are stacks of enormous beet showing no signs of drought. If a farmer cannot make money in





Herbert Felton

*Characteristic of miles and miles of Fenland with its vast distances, fresh clear lights, dearth of timber trees is this stretch of country on the New Bedford River, Cambridgeshire*

the Fens (granted that he is not the unlucky one who is drowned out now and then) it can only be because he lives in too grand a style and forgets he is a farmer altogether. So say we, regarding our Fenland neighbours with envious eyes.

Admittedly the Fen farmer has to pay about five times as much for his land in the first place. But land which is dear because it is good is a better bargain than land which is cheap because it is bad. The same is true, of course, of clothes and boots: but with land it is more conspicuously true. The good land will repay the outlay upon it in a few seasons, the bad may never repay it at all. For the cost of cultivation is higher upon the poor land—labour being equal and the need of fertilizers greater—while the yield is much lower.

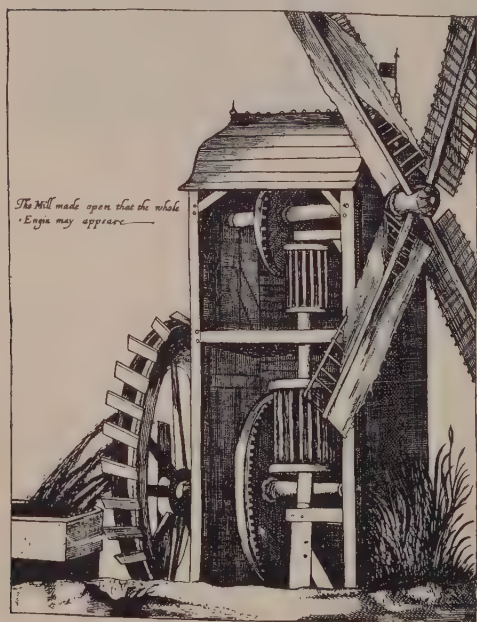
How did the Fens come to be turned from a fowler's paradise to a farmer's? The names of some of those who first adventured in Fen drainage are to be read in the names of the waterways: Popham's Eau, Morton's Leam, Vermuyden's Eau, the Old and New Bedford Rivers. The great move towards reclamation was made in the time of Charles I, but the Fens had not always been the utter wilderness which they were then. Before the dissolution of the monasteries, each monastic house had been responsible for maintaining the ditches of its own land. As anyone who has experience of land-drainage will suppose, this piecemeal system was not altogether satisfactory; it is no use cleaning out waterways unless they are cleaned to the very mouth; if there is a hold-up anywhere, the flooding near the point of hold-up will be

the worse for any attempts at drainage made above that point. So the medieval Fens had many large meres, never dry. But among the meres were drained tracts. The meres themselves were sources of livelihood to the fisherman, fowler and those who made use of the reeds for thatching or basket-making; while the drier parts, largely only summer-grounds, pastured sheep and some cattle. After the Dissolution, chaos reigned. Landholders disavowed their drainage obligations; in some parts it was difficult to discover the identity of the landholder. The English rain-fall waits for no man, and while the Commission of Sewers was struggling to do its duty, conditions became yearly worse.

The 17th century saw the Fens as a desolate tract, sparsely inhabited by men who lived mainly by fishing and fowling. The superabundance of fish and fowl they sold to towns: theirs was not abject poverty by any means, but a queer, wild, independent life, in which

they worked no regular hours and called no man master. They walked prodigiously fast on stilts. When the summer-grounds were dry enough they turned out their sheep and cattle, made excellent hay, and at the end of the season set fire to the turf to stimulate the next spring's growth. When the waters crept up, the stock was taken home to the yards and fed on the hay, while the folk laid in a stock of opium pills against the ague and took again to the watery way of life. Except for the ague, it must have been a good life for men who were men, with turf fuel at hand for the cutting, fish, flesh and fowl in plenty to eat, and only just so much work as a man cared to do—and mostly sport at that. A good life for the tough customer.

Camden reported Marshland as in better state than Fenland, pasturing as many as thirty thousand sheep. It was to turn out later that the difference between these two superficially similar tracts of land was of



(Left) From Blith's *The English Improver Improved*, 1652, a very early example of a windmill working a large wheel which scooped water from a lower level to a higher. The hey-day of windmills was the 18th century. (Right) Another illustration from Blith shows some old drainage tools, of which the trenching spade looks to be a practical one-man implement for soft ground. The ploughs were of course hand-ploughs. The paring-spade removed the top rind of turf. (Opposite) Vermuyden's map of the Fens in 1642

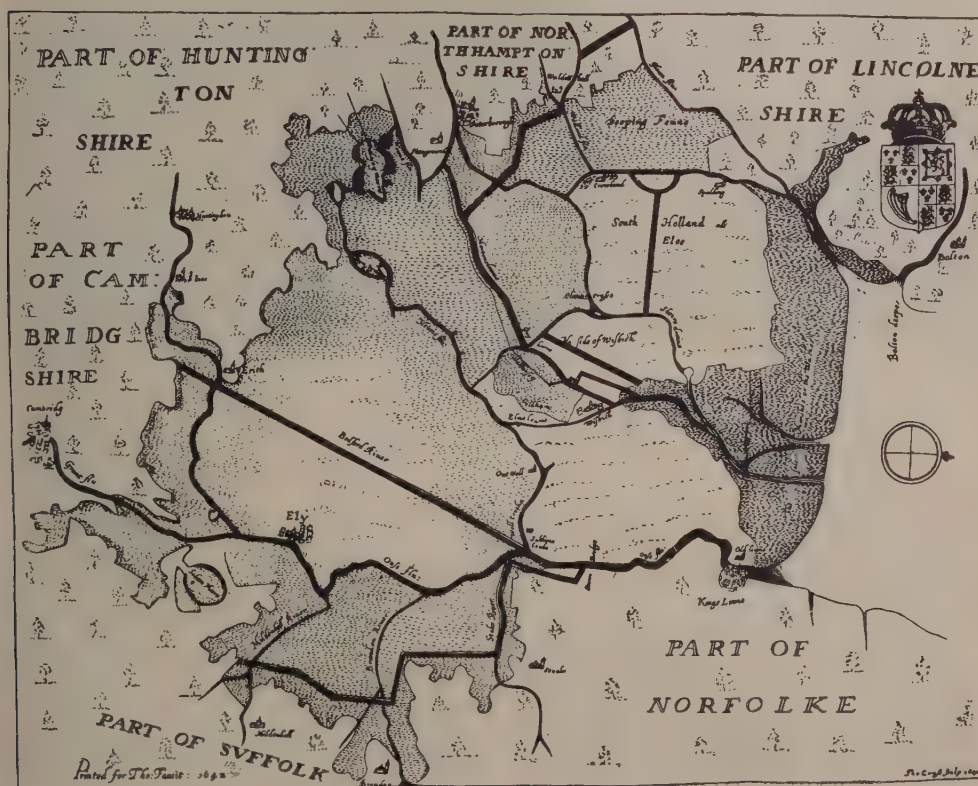


great importance in a comprehensive drainage scheme. Fenland is peat; Marshland, which is a narrow belt between the Fens and the Wash, is silt. That, in spite of inundations by the sea, the Marshland was of old more prosperous than the Fens is shown by the 'wool' churches; Fenland, though it had a few big monasteries, can show no village church to equal Walpole St Peter, Terrington St Clement, Wiggenhall St Mary. Indeed most of the Marshland churches, which are numerous for such a small area, are fine.

James I, coming to the throne in 1603, found himself in possession of considerable Crown lands in the Fens, and, like the canny Scot he was, planned how best to turn his semi-derelict estates to account. Undertakers (men who could actually frame a scheme) and Adventurers (those who were prepared to adventure their capital in the schemes) were encouraged to come forward

with plans for reclamation. Local capital was found to be conspicuously lacking, the common-right holders being those tough customers aforesaid who looked with no favourable eyes on Fen drainage. Indeed there were local gentry and lords of manors who protested that the Fens were well enough undrained, for besides feeding a good head of stock and supporting the inhabitants by fishing and fowling, they even afforded relief to neighbours on the higher ground in dry summers by pasturing animals sent down in starving condition: and in harsh winters they had hay to sell to the same neighbours. These were cogent arguments, for we must remember that before the introduction of turnip husbandry, hay alone determined the number of stock that could be kept through the winter.

Schemes went forward nevertheless. Popham, whose Eau is still part of the system, was one of the early Adventurers. In 1607





*Herbert Felton*

*Some windmills still remain from old days, such as this one of a pair at Swaffham, Cambridgeshire*

and 1613 there were terrible floods caused by north-east winds in conjunction with spring tides. These pointed the need for more effort. A report made in 1618 reveals that it was towards their mouths that the rivers were silted up; below Spalding there was so little depth that boats had to be carried some miles in carts to Fosdyke, where they could float again; at Wisbech, once a great port, the water hardly came up to a man's knees. It was obvious that unless the outfalls were

deepened there was not much use in improving the inland waters. James I consulted the Dutch engineer Vermuyden, but nothing big seems to have been done till after James's death and Charles I's accession. That maligned king had many sound ideas upon his country's agriculture, and the Fens owe much to him.

The projects put in hand by the fourth Earl of Bedford and his son the first Duke, with the assistance of Vermuyden, were



carried out against the wishes of the Fenmen. The foreign nationality of the chief engineer and the consultants and workers he brought with him was one grievance; the Fenmen's dislike of a changed mode of life, as aforesaid, another; and as time passed a third developed. The reward of the Adventurers took the form of pieces of land, and it was constantly maintained that they took too much, or took the best, or had failed to complete their undertaking and so were not entitled to any. For some of these objections there must have been grounds, for we find the young Oliver Cromwell taking up the cause of the common-right owners, not against drainage but against the abuses of their rights: and Cromwell was not one who lightly took to trouble-making. When he came to power, he showed himself definitely on the side of drainage, but he would not let it interfere with the livelihood of the small man.

Vermuyden's schemes of straightening and embanking rivers, making new cuts and building sluices survive, largely, to this day. Many times during the making they were wrecked by the Fenmen, who slid out in their long punts among the reeds by night and tore down the banks. They had a point of view, these wreckers. There would be no more trade for the stilt-maker, and little for those who lived by fishing and fowling.

Eventually the King came to the rescue of the Adventurers, who were spending capital lavishly for small result, and became the chief Adventurer himself. At about this time the more far-seeing of the drainers began to conceive the Fens as not only summer-grounds, but dry land all the year round. The Civil War interrupted the work, but in 1649 an Act was passed decreeing the creation of 'winter-ground' throughout the whole of the Great Level with the exception of the meres. Whittlesey Mere was still a lake in the middle of last century.

Vermuyden was still the engineer under the Commonwealth. He was almost universally disliked, but he was the one man with a large plan and a body of experienced workmen. By 1652 he had turned the North, Middle and South Levels into all-the-year dry land, and there was a thanksgiving service in Ely Cathedral. The area claimed to be drained extended roughly from Guyhirne to Earith, north and south, and from Brandon to Peterborough east to west.

The rejoicings were a little premature, for the drainers had not envisaged a phenomenon which made its appearance surprisingly soon, namely, the shrinkage of the peat as it dried. The next century, the 18th, was full of the problem of how to raise water from land which had fallen below the level of the main drains. Further, the main-drain banks were much strained by the lack of support on their landward sides, and liable to break down under floods.

The only solution to the water-lifting problem seemed to be some sort of engine: the 18th century saw the Fens dotted with windmills which worked large wheels containing scoops, throwing the water from the lower small drains into the higher main channels. Each man's mill was a nuisance to his neighbour, to judge from the numerous petitions to the Commissioners of Sewers, and well it might be if there was no concerted plan. Conditions were made more critical by the silting-up of the outfalls: the inland waters were driven by the inland landholders towards points where the outlet was shallow and slow.

The peat shrinkage was not recognized as such for some long time. We can gather its seriousness from facts obtainable at a later date. In 1851 Whittlesey Mere was drained, and an iron post was sunk in the peat, its top level with the ground. In ten years the top stuck out nearly five feet. Then the rate of shrinkage grew slower, so that today, after nearly a hundred years, the post is seen to have 'grown' only eleven feet: but eleven feet are a mountain when it comes to making water flow uphill, and when we consider the rapid rate of the early shrinkage we can imagine what troubles faced the Fenmen of the Great Level which was supposed to have been made cultivable by Vermuyden for ever.

Steam-engines followed windmills, then centrifugal pumps. Today one can see the decayed windmill, the disused steam-pump house, and the little modern diesel-engine house grouped together on the same lode.

Costly and only partially successful as drainage-works have been (for even as lately as 1937 there was a severe inundation, and there is always new work to be done at great expense), it was very soon discovered after Vermuyden's great effort that the land was well worth reclaiming. The first crops grown were coleseed (for colza-oil used in lamps),



*Fox Photos*



*Sport for General*





Will F. Taylor

(Opposite) A recent flood-picture of Littleport shows how the whole region used to look every winter. Below it is a flood scene on the Cambridge road at Stretham. The bags contain blue clay called gault. (Above) Potato-planting in Cambridgeshire in the easy-working dark soil of the reclaimed Fen

oats, rape and hemp; but when winter-ground was established, winter wheat proved a fine crop. Little manure was needed. Then when the peat shrank, or, as the farmers said, the clay 'grew', a new practice came into being, that of digging up the clay and spreading it on the peat to consolidate it. This had excellent effect on wheat crops, and the district became the wheat-land *par excellence* of the whole country. Therefore the Fen farmers shared in the ill fortunes of farmers towards the end of last century, when 'excessive imports from America' brought the market down: but they cannot have suffered so badly as those whose land needed more fertilizers and yielded smaller crops.

At the inundation of 1937 an interesting suggestion was put forward by a visiting Dutch engineer, Dr Schoenfeld. He proposed to dam the Wash, on the Zuider Zee principle, to do away with one important flood factor,

that of high tides. At the same time it would keep the sea from helping in the endless silting-up of the river-mouths. Probably it will be done one day: the chief deterrent would be the high cost of making an efficient dam through the Lynn Deep. It would have to be a national undertaking, for it is far too costly for the local rates, but if the nation does not now realize the importance of home food production, what hope is there for the future of a people so unintelligent?

Anyone who would like to go deeply into the bit of history which I have outlined here—anyone who believes as I do that a nation's real wealth is its soil—should read the great authority on the subject, Dr Darby, author of *Medieval Fenland* and *The Drainage of the Fens*. He tells an epic story of the struggle of far-seeing men against the forces of Nature, a struggle which still goes on with ever-growing success.

# Oranges by the Million

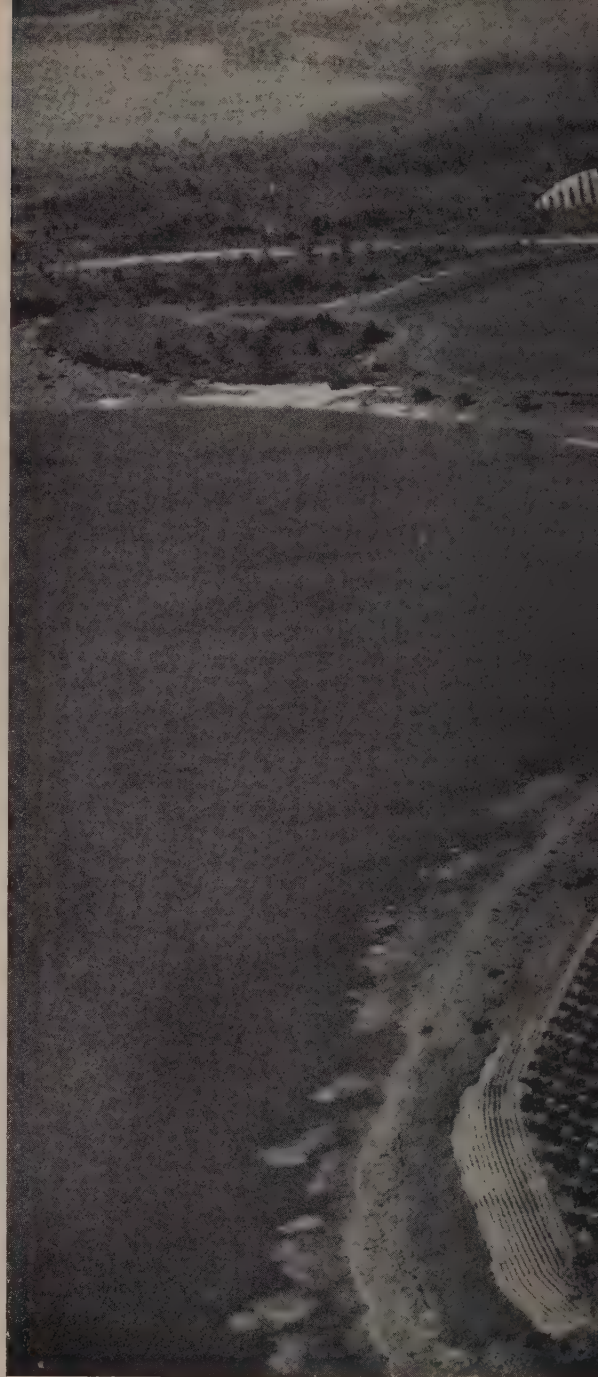
by RALPH E. OGDEN

MANY of us know the story of Ponce de León's famous trip to Florida in search of the Fountain of Youth. Though he did not find the mythical spring, his failure might have disappointed him less if he had known that he carried the seeds of a fruit which has indeed proved a 'Fountain of Youth' to millions of people—the orange.

Recent researches have shown the truth of the old theory that Christopher Columbus brought the seeds of the orange to the New World on his second trip in 1493, and that Ponce de León introduced the sour orange into Florida in 1513. A hardy Spanish pioneer, Pedro Menendez de Aviles, is credited with bringing seeds of the sweet orange to Florida many years later. In 1565 he landed at the site of the present city of Saint Augustine, which he founded. Indians scattered the seeds brought by Columbus, which grew where they fell on good soil. Even today there are citrus groves in some sections of Florida which lack the uniformity of rows. The ingenious modern grower has used this sturdy root-stock as the parent on which to produce modern varieties of citrus fruits.

From this beginning has grown Florida's citrus industry, the state's biggest enterprise. It represents an investment of more than £100 million and brings in a gross return of over £15 million annually. Over 100,000 people in Florida obtain their livelihood directly from the citrus industry during the marketing season.

Apart from its commercial importance, the citrus industry exercises an influence upon almost everyone living in central Florida. Hardly a home-owner does not have a few orange trees in his back-yard and many a man has his own small grove of an acre or so—of little importance commercially, but it



*One of the largest groves of citrus fruit in Central Florida.*





*All photographs from Ralph E. Ogden*

*The many small lakes around it affect the atmosphere and lessen the danger of frosts*



*Destruction of weeds and insect pests: after fertilizer has been spread, it is worked into the ground with a cultivator as shown above; below, on the left insect pests are being attacked with hand-sprayed chemicals and on the right an aerial 'bug-killer' is systematically smothering a large grove with clouds of poison dust*







*The fruit is placed in field boxes after being clipped from the tree. It is 'clipped' with specially designed nippers which leave a very small part of the stem. If the fruit were 'picked', the stem would be pulled off and decay would start at once*

furnishes him with his own fresh fruit. It also gives him relaxation from his regular work and provides a hobby which in good years may show quite a handsome profit.

During the Florida real-estate boom in 1926 a number of orange groves on the edges of some of the cities were cut up into residential quarters. Thus each new land-owner had a few well-developed orange trees on his own property. The tree itself is as ornamental as it is useful. It sheds its leaves gradually throughout the year so that at all times it presents a mass of green foliage. In March the air is fragrant with the scent of its blossoms and a lighter blooming follows in June. It is not unusual to see both ripe and green fruit

as well as blossoms on the same tree.

But the growing of oranges is not all joy. Five years of hard work, constant expense and often many heart-breaks go to the production of a bearing grove of oranges or grapefruit. To bring the trees to bearing age intensive cultivation of the soil is necessary, followed by careful pruning, frequent fertilizing and spraying, irrigating during dry years, and sometimes what is known as firing during cold snaps. For young citrus trees are delicate and will not survive a temperature much below freezing point. So firewood is piled between the rows of trees at the approach of winter and ignited at the first indication of a frost. An all-night vigil must be kept and

the fires replenished until the sunshine dissipates the frost. Some growers use either oil-pots or grove-heaters burning coke, which, though more expensive than wood, are easier to operate and require less labour. In either case, during a cold winter an immense amount of work and worry is involved.

In addition to fertilizing the soil three or four times a year with a commercial fertilizer, a cover crop is grown between the trees in the spring and ploughed under before winter. This adds additional nourishment and humus to the soil and helps to keep it shaded and moist during the hot months.

Citrus trees are attacked by many insects which damage both fruit and foliage. This danger is controlled by frequent spraying and dusting with insecticides. The trees are subject also to many diseases usually caused by weather conditions or soil deficiency. The grower must be constantly alert to prevent the spread of insects and disease, either of which, unchecked, will quickly ruin a grove.

Citrus trees three and four years old sometimes produce fruit, but not until a tree is five years old does it begin to pay for itself. It is then that the grower must become a merchant as well as a horticulturist.

In years past, a rush to beat the other growers to the market has resulted in a large amount of green fruit being shipped. State laws, rigidly enforced, have eliminated this evil. The shipping season is now lengthened by the development of varieties of both earlier and later ripening fruit.

Some growers sell their fruit on the tree. Others pick and pack it themselves. Usually the fruit is gathered from large areas and brought together into efficient packing-houses operated by the growers or marketing agents or independently.

The picking calls for skill and judgment as citrus fruit is easily injured and must be picked before it is too ripe, but not while it is too green. The fruit is clipped with special nippers which leave a small part of the stem. If the stem were pulled off, decay would start at once.

Upon arrival at the packing-house, the fruit is dumped into machines where it is automatically washed, dried and polished; then it is rolled onto the grading belt. There it is examined by expert graders who divert

each grade to the proper 'sizer'. The sizer automatically places fruit of a given size into the right bin from which it is taken by the packers. Each fruit is wrapped in tissue paper and boxed. The same sized box may hold as many as 324 small oranges or as few as 28 large grapefruit.

After each box is packed, it moves on a conveyer chain to the nailer. From there it goes either to a refrigerator car for its trip to market or to a refrigerating room to be stored at a safe temperature.

An important advance in the marketing of citrus fruit, especially grapefruit, has come with the development of the canning industry. Before the development of grapefruit canning in Florida there was much waste, owing to the marked fluctuation in the annual crops and to the habit of heavily loaded trees dropping a good deal of sound fruit in an ordinary wind-storm or in time of drought.

Furthermore, the large-size fruits were often unsaleable in northern markets because of the small number in each box and the consequent high selling-price of each fruit. There was an additional loss in mis-shapen and disfigured fruit. All such fruit, though of good eating quality, was not marketable until the advent of the canneries. Formerly tens of thousands of boxes of sound, edible grapefruit were hauled to the dump piles from the packing-houses. Now all this has been changed.

In addition to canned grapefruit segments, the manufacture of canned grapefruit and orange juice has provided the grower with a twelve-month marketing season and has greatly relieved mid-season pressure.

The canners of fruit have a much broader market than the shippers of fresh fruit. Fresh grapefruit, for instance, is rarely found in many smaller towns and villages, but canned fruit may be sold at every cross-road store.

Citrus canning plants are spotlessly clean and mechanically ingenious. Only one operation is now performed by hand, the peeling of the fruit and sectionizing, as no machine has yet been developed which can duplicate the dexterity of human hands in doing this job. Everything else is automatic, and the fruit is pasteurized inside the can to render it sterile. Frequently, it is a matter of only a few hours for the grapefruit to be clipped

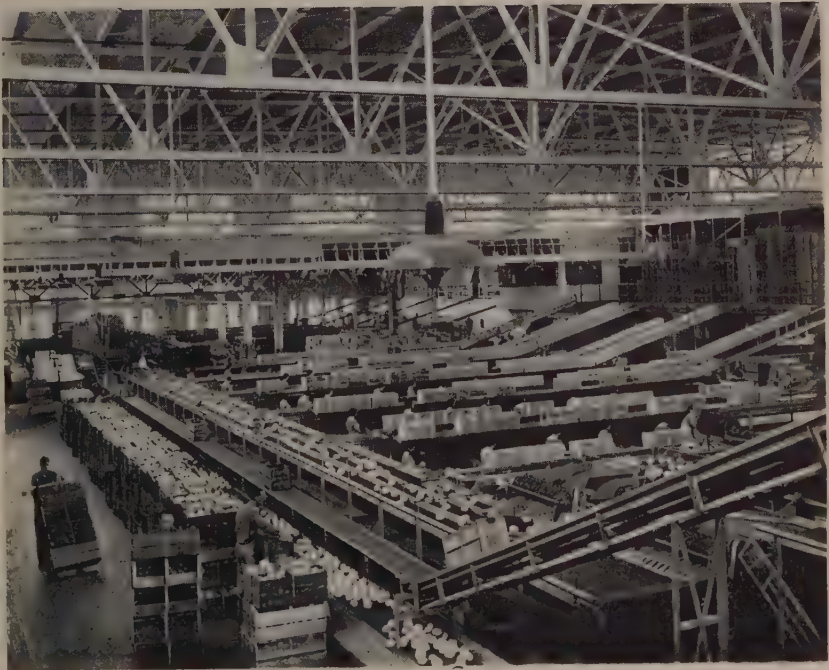


## ORANGES BY THE MILLION

*Loading field boxes full of fruit onto lorries for transmission to the canning factory*



*To the left field boxes of grapefruit are being dumped on a conveyer belt which carries them to a washer, driers and polishers (not visible in the picture). Empty field boxes are being carried away on a canvas belt for return to the grove. In the right-hand corner is the end of the grading belt. The fruit flows out onto the distributing belt, the various grades follow special runways leading them to the 'sizers'. From the sizers the fruit is dropped into the bins ready for packing*





*A trailer full of grapefruit mechanically dumping its load into chutes directly connected with the canning factory*

from a tree and put in section form into a can. This rapid processing retains more vitamins and more of the excellent flavour of the fresh fruit. It is a far cry from the glass jars of twenty-five years ago to the modern processes now at the industry's disposal. Today it is possible to open a can of Florida grapefruit and enjoy practically the same taste and health-giving qualities as were found in fresh fruit.

While some fresh Florida citrus fruit was being exported to Great Britain when war broke out, the English had shown a decided preference for the canned grapefruit sections. Each year more and more canned grapefruit crossed the Atlantic. It is estimated that nearly one-third of all the grapefruit sections

canned in Florida was being shipped to the British Isles. In 1938 shipments were well over twenty-five million cans.

The manufacture of citrus candy, jam and marmalade and the use of citrus juices in the baking of bread are of growing importance. The utilization of the by-products of the citrus industry, pulp and rinds, in the manufacture of cattle food is still in its infancy and presents immense opportunities.

Florida enjoys a peculiar set of circumstances which enables it to grow some of the finest oranges, grapefruit and tangerines in the world, but it has taken a hardy group of men, who were not discouraged by misfortune, to bring the industry to its present position. Florida has just the right kind of soil, and



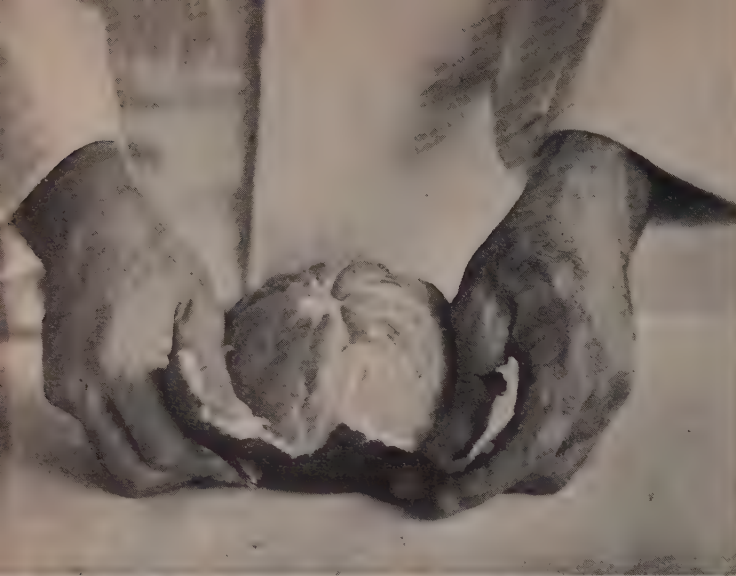


*A laboratory is essential in every modern canning factory in Florida. The one seen here is small but efficient, and its three workers are kept very busy*

plenty of sunshine and rain combine to make it the ideal spot for citrus-growing. But once in a while Nature steps in with one of those elemental freaks, such as a frost, to let us know she is still supreme. The most severe frost in Florida occurred in 1895 and nearly ruined the industry, then in its youth. Entire groves were destroyed by the wall of cold air which swept down from the North. Undaunted, Florida's growers looked over their damaged groves, replanted where necessary and stuck on relentlessly. No subsequent frost has reached to the severity of the 1895 disaster.

The citrus industry developed gradually and the fine oranges, grapefruit and tangerines of today are the result of long and

tedious research to produce better and hardier varieties which can be marketed over a longer period of time. This research is continuing today, with the State of Florida and the United States Government participating, as well as numerous private groups. The ultimate aim is the production of citrus fruits more pleasing to the public taste than anything available today, varieties able to withstand occasional cold waves which blow into the citrus-growing area from the North, and also able to stand transportation to northern markets and across the seas without losing their good qualities. The Florida citrus-grower is justly proud of the product he grows today, but it is hoped he will not be satisfied until perfection is reached.



*Grapefruit is peeled by hand before it is cut into sections for canning. Skill is needed in these manual operations and workers acquire amazing dexterity in this and other operations*



*After peeling and removing the membrane, the grapefruit is 'sectionized' with a special knife. Seeds are removed before the plump, solid sections go into a can*



*(Opposite) Girls, dressed in spotless white, perform many of the tasks in a canning plant that need skilful fingers. Here is an everyday scene in the factory showing the different stages of the canning process and rows of shining new cans ready to receive the grapefruit sections*







*Henry C. Brewster*

# The Volcano of Santorin

by HENRY C. BREWSTER

ON August 21, 1939, a few lines appeared in one of the London newspapers saying that the volcano of Santorin was again in eruption and that a 'small island' had sunk into the sea.

Santorin is the southernmost group of the Cyclades. These islands present on the whole a gentle aspect of soft, round, bare hills, golden in colour and wonderfully smooth in texture. Neither the grandeur and majesty

of Attica and the Peloponnese nor the luxuriance of Corfu and Leucas are to be found in them. Beautiful they are, none the less; but their beauty is of a more intimate and less romantic character than that of some parts of the mainland and of certain islands belonging to other groups. It is the play of light and colour they present, their ethereal transparent surface and their dazzling white



architecture that makes them look like jewels set in the bluest of seas.

Santorin, however, though belonging to the Cyclades, is unique among them, and among all Mediterranean islands, owing to its spectacular volcanic configuration and its individual architecture. It consists of two main isles; the largest, Thera, is semicircular, forming roughly a horse-shoe, while the smaller one, Therasia, is a curved strip of land which, with the islet of Aspronisi, completes the annular shape of the group.

Inside this broken ring the sea reaches such a depth within a few yards from the perpendicular cliffs that the ships entering the bay cannot drop their anchors unless they choose one isolated spot called 'Banco', where a reef is situated about six fathoms below the surface, half-way between the crater isle which marks the centre of the whole group, and Phira, the capital of the main island.

The external coast of Thera and Therasia, turns towards the open sea. Its smooth texture is carried to an extreme, its earthy golden colour is of even greater intensity, its treelessness is more complete and its white houses and churches are more dazzling. The sight of a few scattered palm trees, of what appears to be sand but is in reality volcanic ash covering the ground and often carried through the air by violent winds, of white and frequently almost windowless buildings with flat-terraced roofs, and of deep ravines concealing rock-hewn buildings, at once makes one think of Africa, which is in fact not so far distant. But the omnipresence of those little windmills scattered along the crest of the main heights remind one that it is after all a Cycladic island.

As you sail into the enclosed gulf of the volcanic island, the sight of the surrounding cliffs and rocks and of the almost lake-like sea presents a sudden awe-inspiring change. The wall of lava and pumice, nearly a thousand feet high, circles round a deep-blue sheet of water several miles wide. Far above you, on the edge of the black ridge, the whiteness of houses shimmers in the sun. Below the ridge parallel streaks of chalk-like pumice and dark livid lava mark the different stages of eruption and geological formation.

In contrast to Thera and the other islands of the group, which though interesting have

remained the same for more than three thousand years, the volcano of Santorin presents a history of perpetual change. Thus, though plenty of geological descriptions exist of the volcano and accounts of its periodical eruptions, it remains mysterious and surprising. With each new spurt of activity a change in the configuration of the isle takes place, attracting a troop of geologists to re-examine the phenomena and re-map the island.

It is the only European sea-volcano, namely, one where volcanic activity takes place under the sea, altering its depth, changing the contours of the coast, raising islands and rocks from its bed and sinking them again. The volcano we see today, standing above the level of the sea, is of relatively recent date.

After a period of fifty-five years of inaction, suddenly, on August 11, 1925, a new eruption began. As the Kameni or Burnt Islands were no longer inhabited, the phenomena which as a rule precede the eruptions of Santorin were not observed or noticed on this occasion as they had been during the days that led up to the great eruption of 1866, which lasted for nearly five years.

This time the volcanic activity began at a spot between Nea Kameni and Mikra Kameni, close to and due east of the crater left by the 1707 eruption. The actual site was in the midst of the canal separating the two Burnt Islands, and the first explosions came from beneath the sea. Soon the canal was filled up with lava, so that Mikra Kameni ceased to be a separate island, and the new crater, which received the name of Daphni, rose rapidly in height. Its explosions were frequent and of great violence. Often they produced the typical cauliflower-shaped clouds, which were shot up into the sky at great heights. Two distinct streams of lava, called respectively Georgalas and Liatsikas, from the names of the two Greek geologists who observed the eruption, flowed from Daphni down into the sea, encircling Mikra Kameni from the right and from the left. Where these two streams of lava reached the sea, clouds of steam rose and a great sizzling took place.

My arrival on the scene, not as a geologist but as an ordinary traveller, was relatively late in the day, namely, at the beginning of



Stanford, London

(Above) Santorin, the volcanic group which is the most southerly of the Cycladic Islands. (Below) Santorin volcano: craters and domes on the Kameni or Burnt Islands. Lava from successive eruptions has filled in the canal which separated Nea Kameni from Mikra Kameni



Stanford, London

October 1938. And yet, owing to the three-fold nature characteristic of the present phenomena consisting in the consecutive formation of three craters, Triton, Ktenas and

Fouqué, I was able to witness with my own eyes the birth, increasing activity, climax and gradual decline of the third of these craters.

The present eruption, like all previous ones, started with submarine activity. From beneath the sea in the western bay of Nea Kameni came up in the month of August the first crater; it was named Triton. It filled a great part of the bay with lava, but spared the innermost end, which had been a miniature fjord, cutting it off from the sea and thereby turning it into a sort of lake. Then, towards the close of September, a new crater developed inland, north-east of Triton, about half-way between the western inlet and the nameless crater of 1707, which has been baptized Ktenas, after a distinguished Greek geologist. The lava of this crater flowed in a south-westerly direction, destroying a little chapel and covering up the Triton crater. On November 13 a third crater, named Fouqué in honour of the French geologist who wrote on the 1866 eruption, came into existence and soon superseded in activity the Ktenas, which died out a few days later. This third crater is situated between Giorgios and the 1707 crater, but closer to the latter.

Thus the development of three consecutive craters characterizes this eruption, whereas in 1866 Giorgios, Aphroesso and Reka were active contemporaneously, although the former outlived the two latter. In the present eruption three craters have superseded each other and the birth of one marked the death of the other.

An interesting feature of this volcano is that, speaking from a geological standpoint, unlike most others, it has no crater or craters, but at every eruption it forms a dome which gradually rises in height and which constitutes the centre of activity whence the lava flows and the explosions take place. Thus, strictly speaking, Giorgios, Daphni, the elevations of Mikra Kameni and Nea Kameni, Nautilus and the present Ktenas and Fouqué, are all domes and not craters.

Little by little the dome builds around itself a wall of volcanic ash, sometimes entirely circular—in which case the lava proceeds subcrustaceously—but more often semicircular, being open on the side through which the lava flows. At the close of every eruption final explosions take place which, as a



rule, destroy the natural shape of the dome and produce a large circular cavity resembling somewhat the shape of a small crater, and can be mistaken for such. Sometimes there is more than one cavity, as on Giorgios, while at other times a single depression marks the spot of former activity, as on Mikra Kameni. In the case of Nautilus no explosions took place, so that it kept its original circular shape like a dome, although its central part has sunk in, losing thereby its convexity.

The lava of the Burnt Islands is particularly viscous, and has a characteristic aspect of its own. It is broken up in bits of the most fantastic jagged appearance, and it proceeds at a slow pace by a peculiar process of piling up to a considerable height, of pushing itself forward and tumbling down block over block. As it falls, it breaks into smaller pieces, making a rumbling noise, and sometimes a peculiar tinkle like that of breaking china.

On approaching the Kamenis you see the motionless streams of lava from past eruptions projecting, like the paws of an awful monster, into the sea. Its surface, like that of all the lava of the volcano, is broken and jagged, but here, close to the sea, it appears particularly black, smooth and shiny, contrasting wonderfully with the intense blue and green of the water. As the boat enters this bay (formed by Mikra Kameni and the streams of lava which in 1925 joined it to Nea Kameni), where landing is most convenient, the waters become gradually turbid and assume a rusty, yellowish-green colour. You put your hand in and find that its temperature is almost unbearably hot. For a hot mineral spring finds an exit into the sea here and imparts its heat to a sheet of water covering a large part of the bay. Although its temperature has greatly increased as the result of the 1939 eruption, it is a permanent phenomenon.

There are several hot springs in the little bays of the Kamenis' coast; Abbé Pègue, about 100 years ago, made a list of the diseases these hot springs are supposed to cure. They contain much iron, which accounts for the yellow colour of the water and the rusty orange border of the lava where it is washed by the sea.

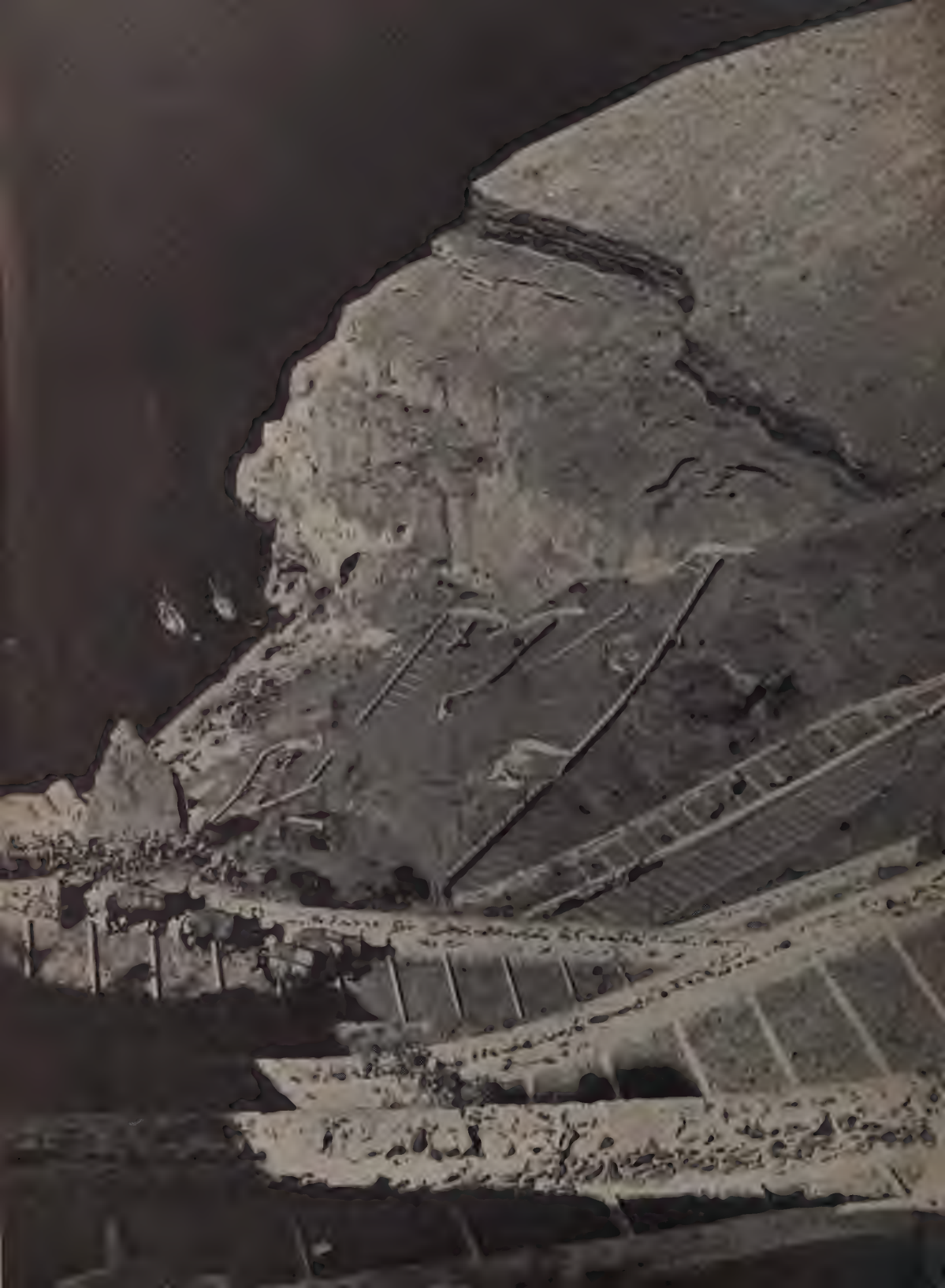
It is not only possible but extremely

pleasant to bathe in these inlets even in the height of winter. You can choose the temperature which suits you best and regulate it by approaching or moving away from the spring, where the water is scalding hot.

The bay of Mikra Kameni is the ordinary landing-place and it is from this shore that the best path leads into the interior. One is struck as one lands by the way in which Mikra Kameni, although now joined to the rest of the volcano, has preserved its identity. Instead of being bare and black like the surrounding lava of more recent date, it presents a soft yellow surface of grass, and its smooth slopes stand out as belonging to a different and separate entity. As you advance inland and approach the slopes of Giorgios, the scenery becomes rapidly more desolate and more awe-inspiring, until you find yourself in a real Inferno of Dante, made even more realistic by the strong smell of sulphur. The ground is a mass of lava, contorted, broken, torn asunder by deep crevasses and mixed with volcanic ash; its colour varies, owing to several forms of chemical composition, from black to bright red, and from red to white. Sometimes the ground is yellow, with incrustations of sulphur crystals. The number of fumaroles increases as you walk on. Some consist of a long tongue of steam which springs out of the ground and moistens whatever rock it may come in touch with, but others are invisible, being of hot air, often with such a temperature that you can light a cigarette or a piece of paper by bringing it in contact with it.

All of a sudden you will hear a terrific roar, followed by a deafening explosion. A gigantic cloud, dark, heavy with ashes, twisted and woolly in texture, carrying a load of stones which are scattered in every direction, is hurled by the active crater up into the sky, sometimes reaching a height of 3000 feet or more in a few minutes. The fierce rumbling will continue, with an occasional whistle, like a noisy train, for three or four minutes, after which all will subside.

Every explosion is followed by a rain of ashes, unless there is a sufficiently strong wind to carry them out to sea. One is perfectly safe if one keeps beyond the range of the stones or 'bombs', which is seldom more than 300 yards. The geologist and the photo-





(Opposite) On the island of Thera: looking down on the winding path of shallow steps which leads from the western shore up the cliffs to the capital, Phira

Paul Popper



An erupting crater on the Kamenis or Burnt Islands seen from the terrace at Phira

Henry C. Brewster

Inside the broken ring formed by the western coast of Thera the sea reaches such a depth that ships entering the bay cannot drop their anchors except at one particular spot midway between the Kamenis which lie away to the left and Phira seen at the top of the cliff. The volcanic formations of the cliff—parallel streaks of chalk-like pumice and dark livid lava—mark different stages of eruption and geological formation

Henry C. Brewster





*Paul Popper*

*Another view of Thera's cliffs, with the whiteness of the houses shimmering in the sun*



grapher, on the other hand, deliberately run risks for definite purposes.

The explosions are the most spectacular feature of the eruption. They follow each other at irregular intervals, about every ten or fifteen minutes when the eruption has reached its greatest intensity. At a later stage there are intervals lasting three-quarters of an hour, and even longer. The height and the volume of the cloud also greatly varies. Sometimes it reaches several thousand feet in one minute, sometimes it barely raises its crest a few hundred feet above the summit of Giorgios. Two distinct types of explosion can easily be distinguished by the ordinary on-looker, which occasionally take place at the same time or at a very short interval but as a rule separately: one producing a white cloud of steam, which can burst out, whistling, at a terrific speed, under great pressure, not unlike the emission of steam from a railway engine only thousands of times greater in volume; the other throwing up, sometimes with a sort of muffled rumble, but often silently, a heavy cloud, black and woolly, which is laden with ashes and stones. The cloud of this type rises up in a knotty column and spreads out at the top in the shape of an umbrella, pine or cauliflower.

Every explosion takes place when the internal pressure exceeds the weight of the dome; it then breaks its way through, often destroying the dome, which, however, builds itself up again in a very short time and rises rapidly, owing to the pressure from within, until the next explosion takes place. Sometimes it is possible to catch sight of the dome in the act of rising.

At night, with each explosion, flames can be seen topping the crater and burning with a fierce roar. The incandescent stones that are thrown up appear as glowing embers and fall in a shower over the sides of the crater like a firework.

These pieces of lava hurled out by the active crater are called 'bombs' by geologists, and two kinds exist: the compact black and relatively smooth type and the elliptical-shaped sort with cracks on its surface, somewhat resembling a crust of bread. When the latter are hurled out by an explosion they are still in a plastic condition, and it is during

their flight that they crack on the surface and assume their characteristic elliptical shape. The largest to be found on the volcano were thrown up by Giorgios in 1866. The last eruption, however, did not do too badly; some of its bombs measured  $6 \times 5 \times 4$  feet and weighed several tons.

The summit of Giorgios, being the highest point of the volcano, offers the most comprehensive view of the Kameni group. Streams of lava stretch out in the black and contorted mass at your feet. Away to the north, across the blue bay, you see the dazzling white houses of Apanomeria and Merovigli, perched on the ridge of the great volcanic cliff, and shimmering in the sun. In the foreground the present crater smoulders and roars angrily until it emits, with a sudden puff and a groan, its twisted column of steam, ashes and stones.

To the north-west the island of Therasia continues to border the circular bay, and then, further to the south, the silhouette of Palea Kameni, with its broken cliff vertical as a wall, stands erect in an emerald-green sea. Though bold and jagged in shape, it is carpeted with thick grass, and speckled with white flocks of sheep, grazing on its sloping bank. Beyond, the isle of Aspronisi shows its round chalky surface. It is a remaining piece of the outer edge of Thera as it was before the great cataclysm.

To the south, the lavas of Giorgios and Aphroesso sprawl about in great confusion, and further off, right across the bay, the horse-shoe resumes its long curve. It is this southern part of Thera that shows most clearly the great layer of pumice, and it was here, in the neighbourhood of Acrotiri, that most of the Minoan discoveries were made in the last century.

The smooth, round and heavy body of Mount Elijah stands in the landscape as the next shape of imposing appearance which strikes you as you turn eastward, until the terraces of Phira complete the picture.

How long the Burnt Islands will rest in peace, and when the forces beneath will burst forth again, spitting fire by night and shooting up by day their great knotted clouds, no one can say with certainty.



*Peter A. Ray*

# Any Old Iron?

by HUGH CASSON, A.R.I.B.A.

"Any old iron?" cries the Government, and the Londoner has only to glance around him to reply "Yes, plenty!"

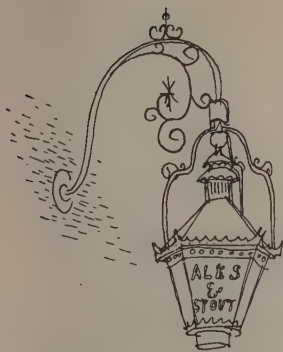
The streets of his city indeed bristle with metal bric-à-brac of every sort and kind—sand-bins, hydrants and pillar-boxes, litter-bins, railings and lamp-posts, Belisha beacons, traffic indicators and tramway standards. All these objects are in varying degree useful, and most of them are hammered, cast or stamped into some form of ornament in an effort to be decorative as well.

This attempt to please, it must be admitted, goes almost unnoticed by the average Londoner, who will post a letter in a pillar-box but will not spare a glance for the

moulding round the slot, or will run the ferrule of his umbrella idly across some railings but will not notice if they are crowned with spearheads or with urns. The man in the street in fact is not as a rule actively interested in the appearance of the street, and since architecture and indeed all design cannot flourish without the patronage or at least the awareness of the public, it is not surprising that so much of the contemporary street scene is either lifeless or offensive to the eye.

The citizen's lack of curiosity in his city has a further danger in that it can assist in the destruction of an historic monument or building whose removal has been threatened





byso-called national needs, traffic requirements, or just plain commercial vandalism. Thus, before the public conscience has been aroused into action by the stings of some indefatigable 'protective' society, the object has gone, and cannot be replaced.

The illustrations on these pages show a few examples of some of London's minor treasures whose existence is threatened today by the nation's genuine need for scrap-metal. Despite London's richness in ironwork, the art of the smith has never attracted the same attention as that of the architect, painter or carver, and the names of its greatest exponents are almost unknown. For these reasons it is perhaps worth recalling in brief the history of decorative ironwork during the past three hundred years.

Although Pepys mentions watching some show from "a balcone window" in 1661, the architectural use of ironwork did not appear in London to any great extent until after the Great Fire, when the new building regulations demanded that every house should be provided with an iron-railed balcony as a means of escape from fire. Before this date, ironwork had been used only on a small scale, for the embellishment of doors and gates or the protection of tombs in churches. The last years of the 17th century, however, saw the rise of that magnificent school of ironworkers which was to flourish for half a century. Leader of this school was Jean Tijou, the Huguenot, who for so many years was the associate, though never apparently the friend, of Sir Christopher Wren. The most brilliant examples of his elaborate, almost extravagant skill are to be seen today in St Paul's Cathedral and by the waterways of Hampton Court where William and Mary used to spend so many nostalgic hours.

Almost contemporary with Tijou were the English smiths, Warren, Robinson and Buncker, Edney of Bristol and Bakewell of Derby—names unknown perhaps even to those who know of Gainsborough and Grinling Gibbons, but which ring down the

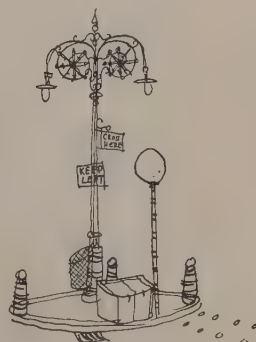
history of ironwork as clearly as if struck by the hammers which used to echo from their famous forges. The work of these men had a tremendous influence on all ironwork of the time, and between them they forged a style and tradition as vigorous as the curves and scrolls with which they adorned their gates and screens.

By the middle of the 18th century the independent designer craftsman was disappearing, and architecture was becoming a profession whose exponents ordered designs from books, or like the Adam brothers, preferred to do all the designing themselves. Isaac Ware, the architect Gibbs, and Batty Langley published books of ironwork patterns about this time, and with the growth of the classical revival, designs became more severe, geometric and stereotyped. Certain motifs—particularly the 'lyre'—became almost universal, and though some of the grace and skill of the earlier masters remained, much of their spirit had gone.

These were the years, too, of the great building boom and of the development of the big London estates belonging to the Grosvenor, Berkeley, Portman and Bedford families. Miles of terraces, streets and squares were being run up by the speculative builders of the day who, like their modern counterparts, used standardised designs and materials which were cheap and quick to produce. Cast iron was extensively used, and the same patterns appeared all over London in the balconies, fanlights and area railings with which every house was provided.

Lincoln's Inn was the first square to replace (in 1748) its wooden palings with an iron palisade, but the other squares, Leicester, Golden, Soho, St James's, Berkeley and the rest, soon followed suit. The designs for these railings vary little, and are rather massive in appearance.

By the end of the 18th century the Greek revival was showing its influence in the restraint and severity of contemporary iron-work, and patterns became more etiolated as the years went by. The frail traceries of these early





*This Perspective View of the South West Prospect — ... of the PRINCE OF WALES.*  
*Engraved by J. B. H. 1751*

Rischgitz Studios

(Above) Eighteenth-century railings in Leicester Square. Frederick, Prince of Wales (1707–1751) is seen leaving his house to go to court in his sedan chair. (Below) An old engraving of Fountain Court in the Temple showing the pilaster type of railing, with moulded swellings and arrow tops to the finials of the pyramids that surmount the pilasters. (Opposite) A view of Big Ben seen through the forecourt railings designed in 1867 by E. M. Barry. They exhibit the complicated detail of which Victorian designers were so fond

Black Star



*From 'English Ironwork of XVIIIth and XVIIIth Centuries' by J. Starkie Gardner (Batsford)*







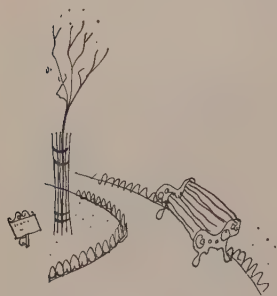
John H. Stone



John H. Stone

(Left) Early 18th-century Spanish-style palisade outside St Paul's: the first cast-iron railings of any size to be erected in England. The effect of the ranked and massive balusters is sinister, but a lighter type of screen would look trivial against the monumental background of the cathedral. (Right) The sturdy elegance of these early Georgian railings, and of the more recent arched lamp supports, invests an otherwise modest doorway with something of that unpretentious pomp which rightly belongs to the official residence of the Prime Minister

19th-century trellises and balconies can be found in many of London's inner suburbs, Dulwich, Islington, St John's Wood, Chiswick, Brixton and Camden Town, but their most charming and lively appearances are made in the fashionable watering-places of the period, in Ramsgate, Weymouth, Brighton or Scarborough. Here that fantasy which is always a vital element of seaside architecture is allowed full play. The elegant ironwork of these



Regency balconies acts as a perfect foil to the demure and stuccoed façades which it adorns, throwing a geometry of shadow patterns across the swelling bay windows as exquisite and precise as that cast

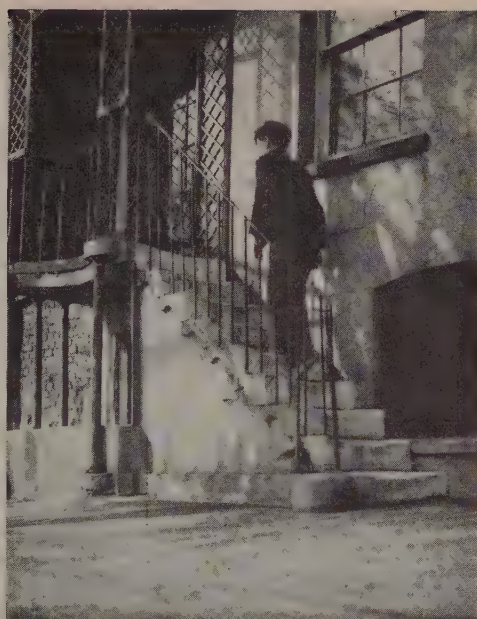
by rigging across the belly of a sail.

But fashion once more was on the move, and the Gothic revival was imminent. Starting at the end of the 18th century with the "Gentleman's Gothic" of Walpole and Beckford it was to become within fifty years the one and only true style of architecture. Town halls and railway stations, post-offices and houses, all must be Gothic, and of course the ironwork must be to match. Architects hurried off for a tour of the continental cathedrals and returned with bulging sketch-books to disgorge a profusion of Gothic details over the façades of their buildings. But alas for their enthusiasm, the Gothic style demands for its execution the free and skilful hands of the craftsmen who by now no longer existed. The copies were exact, but they were lifeless. Ironwork suffered seriously, often being cast and moulded into forms more suitable for wood or stone. It became the custom to use ornament as a disguise, to obscure function and structure





John H. Stone



John H. Stone

(Left) *The design for these mid-18th-century railings is reproduced in Isaac Ware's Body of Architecture published in 1756. They are as handsome and dignified as the sentry who stands guard beside them.* (Right) *The thin delicacy of this simple little balustrade from a house in Strand-on-the-Green is of early 19th-century design*

instead of to emphasize them. Railway stations were arrayed as medieval cloth-halls, horse-troughs as shrines, park-seats as rough-hewn logs. If the Victorian householder wished to know the time, he had to seek it from among a tangle of rocks, scrolls, scythes and gilded greybeards. "Nothing", wrote Ouida in her schoolgirl's diary of the Great Exhibition, "looked like what it really was—it was LOVELY!"

At this time the art of the smith was eclipsed by the art of the iron engineer. This was the age of Paxton and Brunel, of the Crystal Palace and the Saltash Bridge, structures as important in the history of architecture and design as Amiens Cathedral and Castle Howard. Beside these magnificent examples of ironwork the laborious spikiness of many Victorian architects and their commercial imitators seems trivial and meaningless. London can spare much of their work, for most of it (though by no means all) is as useless as it is unattractive.

Such in brief is the history of English iron-work until the beginning of this century—dormant until 1650, flowering into sudden magnificence about 1700 and then, pruned of its extravagance, withering gradually from 1750 to 1830 into a geometrical reticence which eventually refined itself out of existence, and was replaced by the cult of copyism.

London can show examples of every period, of every style and of every quality. The call for scrap-iron means that those who love their city must learn to discriminate between these examples—not simply between what is old and what is new, for this degenerates into mere sentimental antiquarianism, but between what is useful and what is not, between what is of permanent and what is of temporary value.

These things are not easy to decide, but air-raids have roused the citizens of London into a realisation of their heritage, and the discrimination which will surely follow this new awareness cannot fail to stimulate those whose task it will be to rebuild the city after the war.

# Up a Yangtse Gorge

by DORA H. DE BEER

*The Gorge which was the scene of the expedition described here lies roughly 150 miles north of the Burma Road. Though many Europeans have travelled along this famous road from Lashio to Chungking—its building was described in our pages in September, 1939—the countryside that lies around it and the people who live there are less often visited*

THE Yangtse-kiang is a river that stirs the imagination. Many travellers have written about it, particularly the last 1200 miles of its course, including the famous gorge above Ichang.

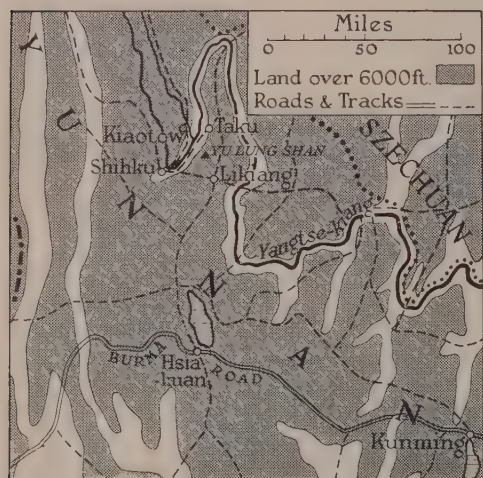
But far above this, nearly 1000 miles upstream, is another, less famous gorge, where the Yangtse, after making an abrupt bend at Shihku, cuts through a mountain range that rises more than 12,000 feet above it. The gorge is in Yunnan, sometimes called the most backward province of China, and is a few days' journey from the Tibetan frontier. The nearest important town is Likiang.

In 1938 a small mountaineering party, of which I was one, found convenient headquarters here at the house of the Pentecostal missionaries, who proved unfailingly helpful. Likiang has a mixed population; many of the people belong to the non-Chinese Na Khi and Min Chia tribes, who are possibly

descended from the aboriginal inhabitants. They have their own languages, which very few Europeans can speak. There are also Chinese, and at certain seasons tall free-striding Tibetans who come to sell woollen cloth and yak butter and to buy Chinese goods. Thus the town's oblong marketplace presents a mixture of different peoples.

Nearby are the shopping streets, one with basket shops, another with jewellery, another with the locally-made copper pots and pans. The quarter of the town where these pots, pans and dishes are beaten into shape resounds with the noise of hammers. The copper is attractively ornamented with brass, and particularly charming are the flat circular copper dishes with scalloped brass rims, which are popular in food shops for displaying delicacies. Canals of clear water rush between pavement and houses in many of the streets, and the abundance of water gives a special character to the town. There is no wheeled traffic; everything is carried by pack-animals—generally mules or donkeys—or by porters. Sturdy Min Chia and Na Khi women carry heavy loads of firewood and green fodder.

From Likiang we made the journey, which takes a week or so, round the Yu Lung Shan, called locally the Snow Mountain, a circuit that includes the passage of the Yangtse gorge. A paved track leads from the city through villages and cultivated land, past water-mills and a temple. After some miles the fields give place to rough grassland, and this again to moraine terraces covered with trees. The mountain towers up to 21,000 feet or more, with glaciers coming down between jagged rock ridges. It is formed of limestone, and the glacier-fed streams soon disappear underground so that it is not always easy to find water.



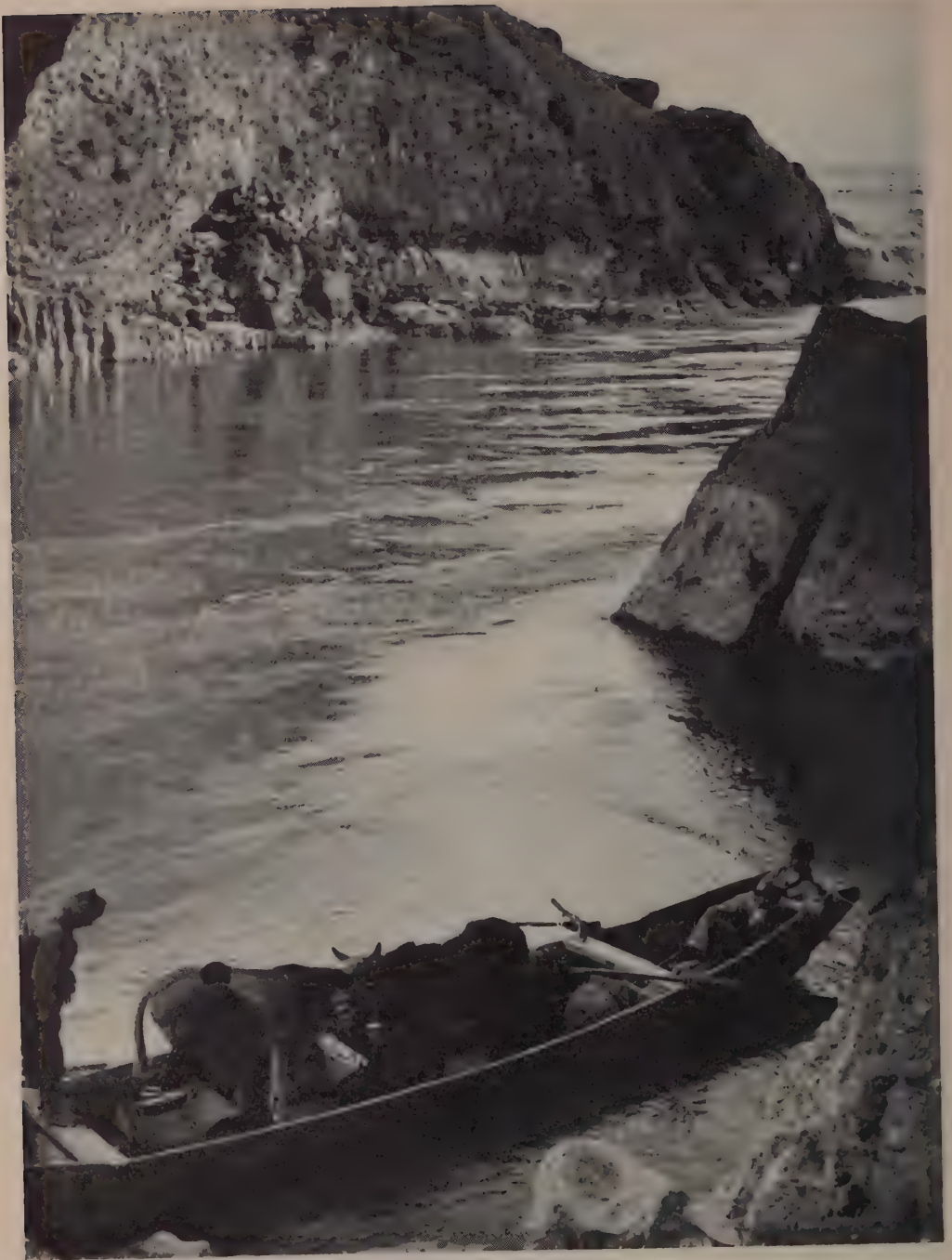
Stanford, London





*All photograph by Dora H. de Beer*

*First day in the Gorge, looking north from the mid-day halt towards the Taku plain. The Yangtse with its deep-cut erosion bed is clearly seen*



*The first crossing of the Yangtse. Two boatmen have landed and are pulling the boat in to the rocky shore. Even there the current is swift and care is needed*



The population here is small, mostly charcoal-burners and nomad tribespeople with flocks of yaks; in the autumn men come to fell the pine trees. This was the only time we saw wheels. They were adzed out of a solid block of wood, and, though we did not see them in use, since there were wheel-tracks about a yard apart we came to the conclusion that two wheels were joined by an axle, which then supported one end of a roughly-squared pine-log, making it fairly easy to transport.

A few lonely farmhouses are scattered among the maze of hills and valleys that must be traversed on the way to the Yangtse. The landscape has a savage quality; tall pines and tree rhododendrons grow on the higher ground, and lower down a variety of shrubs and deciduous trees including crab-apples. Belts of bamboo make dense thickets. A well-defined track exists, but it is not in constant use like the main caravan routes. It leads to the plain of Taku, by the Yangtse, about 6000 feet above sea-level, where there are five small Na Khi villages. The climate is warm and dry, and the plain well-irrigated and fertile.

It was afternoon when we came to the top of the deep cutting eroded by the Yangtse. We had to cross the river, and the preliminaries to this part of our journey were both amusing and enlightening. First we interviewed the two ferrymen, who live in a cave just above high-water level, and arranged the crossing for the following day. Then some villagers joined us, and a great discussion raged about the nature of the path through the gorge. The local inhabitants apparently did not know if it was passable for laden, or even unladen, mules. In the end we engaged a few porters to carry part of the mule-loads, which turned out to be a satisfactory arrangement. This uncertainty about the future was too much for the younger of our two muleteers, who lived at a village below the Snow Mountain, two days' journey away; he wept and wished to go home, but was persuaded to continue. On the whole, muleteers are bold and fearless, but probably this lad had never before been so far from home.

Our crossing of the Yangtse was lengthy, but accomplished without mishap. The ferry-boat was small and the current swift;



*A Na Khi tribesman with a wheel hand-adzed out of a solid block of wood. He is holding a long-stemmed pipe and wears grass sandals*

two mules and half a dozen people made a complete load. After the passengers had embarked the boat was poled and towed upstream close inshore, till at a certain point the man with the tow-rope leapt aboard, and away the boat swung into midstream, carried along and down by the current. Furious rowing brought it ashore in a little cove with a rocky staircase up which the mules scrambled with their usual agility.

At the lower entrance of the gorge is a small village inhabited by people of the Li Su tribe whose girls wear full white cotton skirts. They burn offerings here on altars of dried mud with a bunch of twigs sticking up out of the top. Near the village are cultivated fields, the last, except for a few poor starved-looking patches, until beyond the upper end of the gorge.



*Temple near the banks of the Yangtse, which turns right at the corner and enters the Gorge*



*(Left) Gateway to a village on the plain below Yu Lung Shan. Villages here are small and straggling with cheerful populations. (Right) One of two Tibetan girls met on the return journey to Likiang. She enjoyed a gift of English biscuits. A Na Khi village is in the background*





*The author's baggage crossing a stone bridge on the track from Likiang to Taku after some of the party had climbed the peak in the background which forms part of the Yu Lung Shan*

Above this village the gorge narrows, and sheer cliffs rise from the river. At one spot the opposing sides approach so close that it is called the Tiger's Leap. The banks are bare for some yards above the water, which suggests that at certain seasons it rises considerably. At one time there had, it seems, been a path through, just above water-level, but we saw no trace of it. White sandbanks and rapids were frequent in the gorge; in many places the path rose high above the river, and the roar of the water could no longer be heard.

Pines grow on the steep slopes wherever they can get sufficient hold and moisture. Sometimes an oak with large yellow leaves makes a brilliant contrast to their dark green. The track climbs and descends, in places built up into a narrow ledge clinging to the hillside. The scale is vast, and photography is difficult. A few miserably poor people live in the gorge; sunk deep between mountain walls, they have short hours of sun and endure an almost perpetual wind. Water is scarce, but where it trickles down a fold in the hills the vegetation is more luxuriant and tall bamboos appear.

Towards late afternoon on the second day we saw the end of the gorge near at hand, and the track gradually descended towards the level of the river. Finally we came out on cultivated land, with the Yangtse curving away upstream in a great bend on our left. A tributary flows in opposite the entrance to the gorge, and we had to follow it for some three miles before we crossed it at the village of Kiaotow by a cantilever bridge—a clumsy affair of piled logs and river boulders. It was a pleasant walk through the valley, and groups of people gave a welcome impression of life after the sombre deserted majesty of the gorge.

A good track took us down the other side of this stream to an important ferry across the Yangtse. The ferry-boat is a huge wooden scow that carried all of us and our six mules, and as many more Tibetans with their sleek well-cared-for ponies. Here the river is a wide yellow flood with a sluggish

current, very different from the foaming water we had followed for the past two days. Terraced fields slope down to it, with small villages at intervals. Up valleys to our left we could see the snow-covered mountain.

After a few hours our track left the river and climbed up through a magnificent pine forest. That night our men made an extra large camp-fire—to keep away the wolves, they said. Next morning we crossed a low pass which led to a mountain lake, lying in a hollow with pasture-land and two villages, oddly Swiss in effect. Threshing and winnowing were in full swing, work which was all done by women, friendly Na Khis with no objection to the camera. We were not the only travellers, for two Tibetan girls with a pony kept us company for a time. They were smiling, handsome creatures, beautifully dressed in embroidered woollen cloth, with silver jewellery, gay with coral and turquoise.

Next came a long drop down a hillside, where a bewildering number of tracks criss-cross, each sunk deep between high banks so that the view is limited to a few yards; then a weary walk across the Likiang plain to our kind missionary friends.

It was late November when we made this journey; we had good weather, clear sunny days and cold frosty nights. Snow lay two or three feet deep on the high country between the Likiang and Taku plains, but not beyond. Food had for the most part to be taken from Likiang; we obtained a little with difficulty on the road, and though we had been told it was good game country we saw very little to shoot and in fact got nothing.

Probably not more than four or five parties of Europeans have been through this gorge. I think it would be impossible by boat, but I believe one man has flown through. In bad weather the journey must be a nightmare, especially where the track skirts precipitous slopes, as it frequently does. The transition from this savage grandeur to the peaceful-looking Kiaotow valley is abrupt and impressive, in keeping with one's most romantic ideas about the great river.



# Shepherds of the Sussex Downs

by H LULHAM

*"There are still good men to be met with from Beachy Head to the Hampshire border . . ."*



To the older generation, the solitary figure of the shepherd silhouetted against the horizon has been a familiar sight on England's pasturelands. But even before the war the flocks were slowly becoming fewer and fewer and sheep and shepherds were going. Here and there, however, on our hills, there were and are still good men to be met with, from Beachy Head to the Hampshire border.

For many a year I have counted certain of these men among my friends, finding much to admire in their kindly nature, their efficiency, their whole-hearted and often self-denying devotion to their duties, and their general good sense and intelligence.

It would seem that hours of solitude on the hill-tops have raised their thoughts out of the common ruck. I recall one whose mind was a storehouse of homely wisdom and precept: "Now hark 'ee, my lad," he would say to his boy help, "mind as you allus keeps better company that what you be yer-self! And look 'ee—if Youth could know what Age'll crave, how many a sixpence Youth'd save!" Many of his bits of advice and criticism were spiced with humour. "There, Jim," he'd say, "I'm afeared 'tis no good me trying to knock any sense into that stoopid wooden head o' yours; but put yer cap on, me boy, and pull it down quick—there's a woodpecker a-comin'!"

One summer a London visitor to the village said: "Well, shepherd, it's nice enough here in summer, but it must be a miserable place when these lanes are deep in winter mud." "Well, yes, sir," shepherd replied, "'tis sure we do all have to walk through the mud—but some of us looks at the stars." Another day, after he had paid his only visit to London and had by chance seen some pageant of the streets—a Lord Mayor's Show, I think it was—the Vicar said: "I suppose, Ben, you never in all your life saw anything so wonderful," and, after a pause, the answer came: "Yes, sir, I have: I've seen Dawn come up over the Downs."

The minds of these old shepherds are often surprisingly open to new ideas. Some years ago I suggested to one of them, who was losing ewes at lambing-time from a puerperal infection, that it would, I thought, be a wise thing to dip his hands in a pail of antiseptic solution before handling them. He at once saw the point and acted on it, with benefit

to his charges; though, one must add, his master, hearing of my innovation, disapproved of such 'new-fangled notions'.

Another shepherd friend of mine had among his sheep, as often happens, a 'jumper': a ewe that will jump any low hedge and get away from the rest of the flock. One day as I sat beside him and his dog on the Downs, his ewes were feeding below us in a long, sickle-shaped line, the lower end of which was near a hedge that divided the open down from a field of rape, and suddenly one of these 'jumpers' leapt over it. "There she goes again," he said. "Dunnamany times old Bob here ain't turned her out o' that bit o' rape a'ready this marnin', a rare skaddle old hussy she be!" (That's a good old Sussex word, 'skaddle', meaning mischievous, tiresome.) But he cured her: he had noticed that before she leapt she always pricked her ears forward—as a hunter does before jumping a fence; the flock-mark of his sheep being a hole punched through the ear, he took a piece of stout thread and, passing it through the hole, tied it firmly to the wool at the back of her neck, with the result that, being unable to prick her ears, she gave up jumping.

A custom which was once commonly practised in Downland, and still is in some villages, is the placing of a lock of sheep's wool on the breast of a shepherd at his burial, so that—Downlanders say—he may be able, on Resurrection Day, to hold it up as proof of the calling which kept him up on the hills and far away from the church on Sundays.

The shepherd's knowledge of individual ewes is surprising; he not only knows each at a glance, but remembers her history. I heard one say, when putting a newly-born lamb to its mother: "Here ye are, me dear, and I hopes you'll have better luck with this one than you did last year."

At that time I used often to go from my cottage to the lambing-yard instead of to bed, taking with me a thermos of hot cocoa for the shepherd, whom I would sometimes find working almost asleep, tired out with the day-and-night duties of lambing-time—with us the first three weeks of March—when he had scarcely a chance of taking off his clothes. I would go on duty for a few hours, and the shepherd, dropping upon the straw of an empty pen, would instantly fall asleep, and sleep on like a child till I woke him and





*"May the day be far distant when their solitary forms are seen no more, and their flocks and the music of their bells cease to lend an added touch of poetry to the beauty of our Downland hills"*

*All photographs from Dorian Leigh*





*Shepherd and windmill: ancient symbols of peace that still remain in a changing world*

told him what lambs had been born and what I had done with them.

I look back to such nights as times of great happiness. All around were the sounds and scents of coming spring: young lambs calling from the yard, young birds from the thatch, and nearby one knew the first flowers were opening. Suddenly perhaps a barn-owl, in down-bemuffled flight, would waver across the lambing-yard looking, in the moonlight, like a piece of blown silver-paper, and, gliding up to the roof-tree, would sit peering down for mice. And above the great shoulder of the sheltering Beacon the stars glittered. Happy, peaceful hours!

As might be expected, the shepherd has many strange ideas and semi-superstitious beliefs. I have heard one tell how sometimes his dogs would crouch, looking up and whimpering because, he said, the witch-hounds were running overhead, hunting

some escaping evil spirit back to its doom. Another spoke of what he called 'false dawn' when, an hour or so before the true dawn came, a lightening of the eastern sky appeared, a little breeze would spring up, sheep would move about and feed a while, larks would rise for a short flight and half-hearted faint song, his sleeping dogs would uncurl themselves, stretch their limbs and turn and turn about before settling again. Then the light would fade, the breeze die down, and all rest as before.

Shepherds have told me, too, of strange lambs their ewes have borne, beaked like an owl, or with hare's fur in place of wool, the result, they said, of the ewe having been frightened while carrying her lamb, by what they called a furze-owl (probably the Little Owl) flying out from a bush by which she was feeding: or by a hare suddenly starting from its form beside her.





*"Hours of solitude on the hill tops have made the shepherd's mind a storehouse of homely wisdom"*

The lamb with the hare's fur had died, and I asked the shepherd what he had done with it, if he had sent it to the Bramber village museum. "No," he said, "my missus took and made me a wery good weskit out o' that skin, she did."

Some of my earliest memories of our shepherds are connected with a bird once very common on the Downs, but now comparatively rare—the wheatear. Fifty years ago it was esteemed a delicacy for the table, and was known as the Sussex ortolan. The bird has a habit of running into any hole or other shelter, especially at the approach of heavy clouds; and the shepherds, knowing this peculiarity, would cut a great number of small T-shaped trenches on the Downs, a few inches deep, fixing a running noose of horse-hair at the intersection of the T, and covering in all but the ends with a turf. Into the trench the bird would run and get

caught in the noose, to be sold by the shepherd to poulterers in the Downland towns. This trapping became so common that farmers at last forbade it, for their men were devoting too much time to the trade.

Why the flocks are becoming fewer on our hills I don't know, for there is unlimited pasturage, a chain of unfailing dewponds still, and the small Southdown mutton is as much in request as ever. To give up the hill flocks seems like throwing away goodwill of a valuable and old-established business; and no farmer has given me what seemed to be a sufficient reason for doing so, but nevertheless sheep and shepherds are going, more's the pity.

May the day be far distant when their solitary forms are seen no more, and their flocks and the music of their bells cease to lend an added touch of poetry to the beauty of our Downland hills.

# Introduction to Java

by SIR RICHARD WINSTEDT,  
K.B.E., C.M.G., D.Litt.



Stanford, London

*Of the five major islands in the Netherlands East Indies, Java is the most densely populated and the most important, containing as it does Batavia, the capital of the Indies, and their chief naval base of Surabaya. Sir Richard Winstedt, who contributed an article on Malaya to our January number, surveys the island's history and problems in the light of long experience and specialized knowledge of Indonesia*

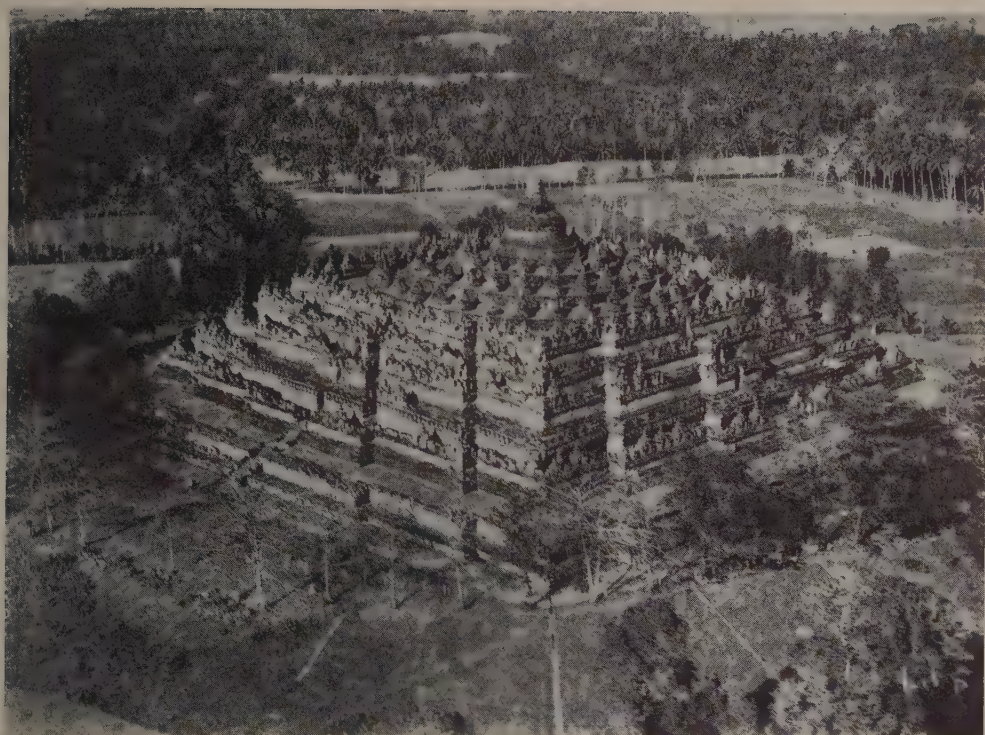
JAVA, which fulfils most people's conception of an earthly paradise, is about the size of England without Wales. It was peopled, as skeletal remains confirm, as early as Neanderthal times, and just before 'the dawn of history' was a land bridge down which passed the ancestors of Australian aborigine, Papuan and Polynesian. Possibly one of the earliest inhabitants of Java and the other islands of the Malay archipelago was a negrito or diminutive negro who still survives in the north of Malaya and in the Andaman Islands, and was found by the Spaniards in the Philippine Islands; the scanty evidence has, however, not yet been fully investigated, nor is it certain that he is, as he looks, a small brother to the African. The Indonesian, as science terms the ancestor of the good-looking *café au lait* Javanese, came last of all with a streak of Mongolian blood from the direction of Yun-

nan. He was a sailor acquainted with navigation, could carve wood and stone, smelt gold, copper and iron, lived in villages and may have had domesticated cattle and irrigated rice-fields. Thus prehistory shows us today that the Japanese descent from the north is in accordance with geographical precedent.

So, too, in accordance with that precedent is the clash with rivals from the west. Early in the Christian era Hindu traders founded small settlements in the north of Malaya, in Indochina and on the north coast of Java, intermarrying with the families of local chiefs and gradually imposing on a tribal village-system the dynastic rule of Indian rajas, which still lingers in the Javanese courts of Solo and Djokjakarta and in the priestly hierarchy of Bali.

Mystery, however, shrouds Buddhist Sri Vijaya, the earliest and greatest empire of the





*From Charlotte Gottgetreu*

*Borobodur, near Djokjakarta, is one of the most magnificent of Buddhist monuments. Its building was begun about A.D. 750 and took several centuries to complete. Its seven walls are terraced right up to the top and along these terraces are niches containing large statues of Buddha and the deep bas-reliefs for which the place is famous. It is similar in artistic tradition to the buildings of Angkor but earlier in date*

Hindu period, which controlled Malayan waters and had colonies in Malaya, Sumatra and Java. Perhaps its capital was for a while at Palembang in Sumatra, for a while in Malaya and for a while in Java, where its ruling house the Sailendras built that most magnificent of all Buddhist monuments, Borobudur near Djokjakarta.

The Hindu period of Java's history saw the rice-crops of her fertile volcanic soil increased in area, until the island began to do what it has done ever since: produce rice above the needs of its own consumption, first for the armies of its Hindu princes, later for export to Malay, Portuguese and Dutch Malacca, and finally for export to Malaya, Australia and Europe. But perhaps the most salient feature of the Hindu period was the discovery that the Malayan archipelago was a natural centre for international trade, and that control

of the straits of Sunda between Java and Sumatra and of the straits of Malacca between Malaya and Sumatra enabled the controlling power to levy tax and toll on all cargoes from China, India and the Spice Islands.

So began a piratical monopoly of trade which centuries later the Portuguese and the Dutch were in turn to seize and, with bigger ships, to develop, the Portuguese conquering Malacca to command the straits there and the Dutch founding Batavia to dominate the Sunda Straits.

About 1300 the passive democratic Buddhism of Java began to yield before the rise of Majapahit (the modern Modjokerto), a kingdom that combined aristocratic Brahmanism with Javanese nationalism and within a century covered the whole of the archipelago. In places like Surabaya (to-day an important naval and commercial port) the Chinese



*Black Star*

*Javanese fishing-boats, making for the fish-market. (Opposite) A peasant on the quayside*

*Black Star*

exchanged porcelain, jade and silk for spices, while Arab prows unloaded the muslin and calico of India and took home those objects of the medieval pharmacopœia, bezoar stones and rhinoceros horn, sandal-wood, cloves and nutmegs.

Under Hindu influence Java now developed a native shadow-play and literature, along with distinctive types of music, sculpture, architecture and painting, especially the painting of beautiful *batik* cloth. Some of the finest sculpture in the world is to be found in the bas-reliefs of Borobudur, the equal of the sculpture of Chartres, Khajuraho and Ellora, while to hear the notes of a Javanese *gamelan*

orchestra dropping through the blackness of a tropical night is to learn in a flash that all but the best of Wagner is crude and vulgar.

In the middle of the 14th century the Mongol invaders of China embarked on maritime adventure. A few decades later the rulers of ports like Malacca were converted to Islam, and Java's trading ports like Gresik passed into Moslem hands. Before the war-junks of Kublai Khan, the fleets of Indian Moslems and, after 1511, before the carracks of Portugal, Majapahit declined, until it was overrun by Moslems, and Java was split into two kingdoms: the agricultural conservative kingdom of Mataram in central Java and the







*Black Star*

small Moslem commercial coastal principality of Bantam.

Sri Vijaya had commanded both the strategic straits of the Malay archipelago. From 1400 those strategic points were commanded by different powers, the Malacca straits by the Malays, the Sunda straits by Majapahit. In 1511 d'Albuquerque captured Malacca, and in 1619 the Dutch conquered Bantam and founded Batavia to command the Sunda straits. This foot-hold in Java gave them control of Amboyna and the Moluccas, whose cloves and nutmegs (in those days before refrigerators) excited the appetites of Spain, Portugal, Holland, England and France. Backed by the government of the Netherlands, the Dutch conquered Ceylon in

1640 and wrested Malacca from Portugal in 1641—a western parallel to Japan's strategy against Hong Kong, the Philippines and Malaya today. From 1641 down to the rise of Singapore in the 19th century the Dutch dominated the Malay archipelago, keeping as their capital Batavia in Java, while the English Company soon quitting an unequal struggle had to be content with what seemed at the time to be the more prosaic and less profitable Indian trade in muslin and cloth.

Down to 1800, when it became bankrupt owing to the European war and was taken over by the Government, the Netherlands East India Company administered Dutch interests in Java and the archipelago. Essentially this was a commercial company,





F. C. E. Knight

(Opposite) *Hillside rice-fields, showing the system of irrigation probably known to the Javanese and other Indonesians even before the coming of the Hindus 2000 years ago. (Above) Javanese labourers, in palm-leaf sun-hats. One wears a batik kerchief*

concerned with balance-sheets, eager for monopoly of trade and later for tribute in kind, but so averse from being burdened with the cost of empire that it tried to carry on by fortifying isolated stations in Celebes, Borneo and Sumatra, by making trade agreements with native rulers and occasionally by extending its hold over Java from the acquisition of ports like Semarang, which today is an outlet for cargoes of sugar. Not till the middle of the 18th century had the Company got, by cession or recognition, the whole of Java, and it was left for Holland in the early years of the 20th century to occupy Borneo, Celebes, Sumatra and the many islands now administered as Netherlands India from Java by the Governor-General at Batavia. Asked

the meaning of the words "Virtue is its own reward", a Babu examinee once replied, "I take them to refer to respectable and remunerative employment like the clerical service." By an accident common to most empires this leading of more backward peoples to the incandescent light of civilization was contemporary with the discovery of oil in Sumatra and Borneo.

In 1811 the English seized Java nominally from the French who had annexed the Netherlands. Raffles, afterwards founder of Singapore, became its Lieutenant-Governor, and aided by Britain's control of the sea and demand for new markets could put into effect the ideas of Adam Smith and of Wilberforce by introducing free trade and improving the

condition of the Javanese so that they could afford to purchase English imports. His five years of office were too few to see satisfactory results from these reforms and in 1816 Java was restored to Holland. But though execrated for his sharp move in occupying Singapore under their noses, Raffles has been generally praised by the Dutch as the father of a new and humane, if not entirely altruistic, system of government.

Owing to those years of British occupation road traffic in Batavia still keeps to the left. But other circumstances of life have changed so radically that the Dutch must be thankful now that it was not their task but ours to defend Singapore.

It is a long as well as sorry track up the centuries from the destruction of spice gardens, restriction of output, compulsory cultivation, native slavery and then forced and finally indentured labour to the liberal administration of Java in the latter half of the 19th century. The opening of the Suez Canal brought not only prosperity to Java but the more objective influence of public opinion in Holland, so that the Dutch civil servant of today is no more like his predecessor, the merchant and factor of a trading company, than the quiet, charming, modern Javanese is like his wild-haired pirate ancestors armed with the 'cursed' wavy creese—which, by the by, was rather a ceremonial than a fighting weapon. The opening provided by the Suez Canal for cargoes of sugar, coffee, tobacco, indigo and tea led to a demand for irrigation schemes, the scientific processing of sugar, the building of State railways in Java and Sumatra, the provision of modern harbours at Batavia and elsewhere and the building of a Dutch mercantile marine.

Even from the first half of the 19th century the economic progress of Java had been so great that it was able for nearly half a century (1831-78) to make a contribution from its revenue to the home treasury; and later that progress was to justify the Liberals in their vaunted policy of *laissez faire*. They legislated for the equality of all men before the law, removed restrictions on labour and agriculture, opened the higher civil service to Eurasians and natives and started an Education Department. They were properly delighted to help agriculture and trade (excluding that in tin and cinchona) pass from official into private hands. This, unexpectedly perhaps, led to the



Black Star

*A little princess, daughter of the Sultan of Sumbawa*





E.N.A.

*Under Hindu influence Java early developed distinctive types of music, sculpture, architecture and painting, especially the painting of beautiful batik cloth for which this woman is drawing the pattern*



Black Star

*Bathing is a large part of Javanese life*





F. C. E. Knight

(Above) Bamboo is cut up-country and fashioned into simple rafts, which on arrival at a town are broken up. The bamboo is then sold for scaffolding. (Below) A seller of cooked foods and coffee at Sukabumi, Java. In the foreground is a platform of bamboos



E. N. A.



*Barnaby's*

*H.H. the Sultan of Djokjakarta with his 'elder brother' the Dutch Governor, followed by maids of honour carrying regalia*

rise of a local capitalist class, European, Eurasian and Chinese, who demanded better schools and hospitals and railway and postal services, got the contribution to Holland's treasury stopped and even resented government by the party in the majority in a parliament 7000 miles away.

The present century has seen progressive efforts on the part of local Dutch and Javanese to get control of East Indian affairs transferred to a parliament in Java. Today the assent of a *Volksraad* or People's Parliament, consisting of Dutch, Javanese and a few Chinese members, is required for the annual budget and for legislation concerning

internal matters. There is no Cabinet nor can the *Volksraad* dictate to the Governor-General or his departmental heads, so that valuable as its criticism often is it tends to be irresponsible. It is probable that its position and attitude during the present war may lead to an extension of its powers. Its loyalty to Holland is apparent now beyond question.

The climate of Java is rather hotter than that of the palm-house at Kew, and in its volcanic soil not only do trade crops flourish but bougainvillæa, ixora, morning glory, Honolulu creeper and orchids attain a size and colour beyond what is found in Malaya, for example. Partly also this is due to the



horticultural and agricultural aptitude of the Dutch.

Not only does the flora pullulate under the moist blanket of the steaming heat. Even the Javanese people teem like the vegetable growth around them, until their island has become more densely populated than any part of the world except the most packed provinces of Belgium. Numbering about 5 millions in 1805 the inhabitants have increased eightfold in less than one hundred and fifty years, and yet the lush vegetation, the beautiful scenery, the picturesque costumes and the golden-brown skins of the people so blend and harmonize that there is none of that effect of overcrowding so depressing in Europe. The peasants are still poor but their wants are few, and preventive medicine now gives them the health to live their natural and happy lives. They are a small and well-built race, and the features of the higher classes have an air of extreme distinction, due probably to a remote admixture of Indian blood. The grace and colouring of their clothes plays its part, and it is a shock to meet in the morning a rather short person looking dark in white European ducks, whom one has seen the night before at court in a long close-fitting skirt, with head turbanned in a chocolate-and-blue batik that makes his figure appear tall and slim, and his complexion glow like *suasa*, the native alloy of gold and copper.

For the tourist, when peace and plenty may allow travel again, Java is an ideal country, compact, well served with planes, roads and hotels and studded with remains of exquisite sculptured temples dating from the 6th century down to the 11th century. In these ruins there is an order and a restraint not associated with many Hindu temples in India.

The growth in the wealth of Java and Netherlands India during the present century has been staggering. Between 1900 and 1928 the value of products exported rose from 230 million guilders (one guilder = 1s. 8d.) to 1588 million, an increase of 688 per cent owing to the then high price of sugar, the arrival of rubber, the development of tea and tobacco estates, and pacification of the islands outside Java which has allowed the opening of fertile areas for new estates, many financed by British, American and other foreign capital.

In the trade of Java the economic intervention of Japan during the present century

has played a striking part. "By 1930", writes Mr J. S. Furnivall in his *Netherlands India*, that best of English books on Java and the Netherlands East Indies, "the Japanese had opened three banks, had secured a footing in the sugar business, were prominent in the sea-fisheries, controlled the native production of quinine, were on their way to capture the whole import of cotton goods, and practically monopolized the overseas trade with Japan." Starting retail shops, with fixed prices and Javanese assistants, they almost ousted the Chinese from a preserve that had always been theirs. Then in 1931 Japan's flight from the gold standard forced Chinese and Dutch alike to import her cheap products until in two years Japan had captured just under 76 per cent of the trade in cotton-piece goods. Java and the other islands were flooded with pottery, cement, timber, electric fittings, bicycles, sweets, toys, tiles, glass-ware, haberdashery and so on, all coming from Japan in Japanese ships and all so cheap that European and American competition was left standing beside its labour's higher standard of life.

The main reactions to this catastrophic attack on Java's economic life were two. The cheapness of Javanese labour, now thrown out of work by over-production and competition, encouraged a big development of local industries—financed less by the Dutch than by Chinese, American and British. Secondly, there was Government intervention, spelling the end of free trade. To bolster up falling prices (due to over-production in a Far East become self-sufficient and in a world where science had increased crops) sugar, tin, rubber, tea and cinchona were restricted in output; to avert Japanese trade aggression, the import was restricted of foreign rice, soya, cement, and cotton-piece goods; to save Dutch shipping from Japanese preponderance, the import of many goods was restricted to licensed importers.

On the top of all these measures, aimed in the main against Japan, there came recently limitation of the quantity of oil that Japan might purchase. Based on political and not economic policy, this must have proved one of the last straws on the heavy kit of the Japanese militarist. With sweated labour Japanese capital tried its best to capture the trade of Java and of Malaya. Its failure is the main cause of Japan's entry into the world war.

# A New Guinea Journey

by LEIGH VIAL

*New Guinea, with other Pacific islands—some of which we have recently described—brought into the centre of the war zone by Japan's drive south, contains a few tracts of country that still remain partly unexplored and unmapped. Mr Vial tells of a journey in which he led a government patrol through such country inhabited by a people whose customs and implements belong rather to the Stone Age than to today*

A SHORT time ago I had the good fortune to make a journey through a little-known valley in the interior of New Guinea.

Up to about 1930 it was thought that the unknown centre of New Guinea, like the explored areas near the coast-line, would prove to be a land of rugged mountains and deep narrow valleys, densely covered with jungle and supporting a scanty native population. In 1933 the Territory of New Guinea Administration sent out an exploratory patrol from the head of the Ramu River to investigate the rumours that had been drifting in for some years from trading natives, prospectors and missionaries that a large native population lay over the ranges. This patrol penetrated westerly to Mount Hagen, finding a plateau with a series of fertile valleys, supporting a neolithic population estimated at well over a hundred thousand. These people were of superior culture to tribes previously discovered in New Guinea; they had beautiful stone axes, a highly developed sense of decoration, and took great pains

with their agriculture, constructing neat drains that made their gardens look like chessboards.

Administrative posts were established on this plateau, at Mount Hagen, Chimbu and Benabena. As I was at Mount Hagen and had to return to Chimbu, I decided, instead of following the main route along the plateau, to skirt it on the north, traversing the Jimi Valley, and climb back to it near Chimbu. This Jimi Valley had been partly explored by the patrol in 1933 but some of it was still unknown.

We set out from the Mount Hagen Post, a party of seven native police, two interpreters, twenty-three carriers and myself. The first two days took us over well-known country, across the swampy heads of the Wagi River, and though we were 6000 feet above sea-level the mosquitoes were bad. At Kanzivi on the edge of the swamp we rearranged our cargo into individual loads instead of the two-man loads suspended from poles that the carriers preferred on good tracks.

Ahead of us, along the edge of the plateau, was a wooded range which is the main divide of New Guinea—on one side the Wagi flowed south into the Purari River and the Gulf of Papua, and on the other side the Jimi joined a northward-flowing river to reach the great Sepik River. Here the divide was comparatively low—one to three thousand feet above us. The Kanzivi natives said they knew of a track over it that would take us to a village on the other side in less than a day. To be able to reach a village each night was important, for the party relied on purchasing food locally and carried only a small supply of rice for emergencies.

Next day we climbed to the crest of the range, a narrow ridge covered with dense forest, big trees of many kinds struggling for foothold on the steep slope with moss hang-



Stanford, London





*All photographs by Leigh Vial*

*The Chimbu Valley carries a large population on its steep sides; their gardens and plantations cover the lower slopes of the mountains*

ing from their branches. A thick mist allowed no hope of a view, and even if it had been clear it is doubtful if we could have seen anything without felling many trees. The carriers rested, eating the baked sweet potatoes they had been carrying, and then we started the steep descent. At noon we came to a level grassy clearing beside a stream, with gardens nearby. The clearing was a ceremonial dancing ground, where at certain times the people gathered in their decorations of bird of paradise feathers and mother of pearl to feast and dance. The guides from Kanzivi said this was the place to camp, and the invitation was confirmed by the local people, who came bringing bundles of sugar-cane for the carriers.

While the police erected the tents I talked to these people and found that they spoke the same language as the Hagen natives of the plateau, and had practically the same culture. They were pleased to see us, knowing that soon they would get cowrie shells and salt in exchange for food. The women

came in twos and threes, carrying net bags of sweet potatoes and other foods by cords over the head. They wore little; a belt of bark cords supporting a narrow apron of strings in front and a somewhat wider one behind, with the hips and thighs bare. As decoration a woman might have a necklace of boars' tusks or a string of cowries.

The staple food is sweet potatoes, but judging by the food brought to us the people have a varied diet. We paid each woman for her bagful and emptied it in a pile, and soon there was as much as we could use. Sweet potatoes, ropes of green bananas of different kinds and four-foot lengths of sugar-cane made up the bulk of it, but mixed in were raw ginger, cucumbers, *marita* (the red fruit of a screw-pine), native asparagus and five or six different kinds of edible leaves. When the women had finished a group of men came forward leading a pig, which we bought with a gold-lip shell.

Pigs, cassowaries and fowls are the only livestock kept on the plateau, and we found



(Left) Girls of the primitive tribes of New Guinea wear more ornaments than married women. The two mother-of-pearl crescents this girl is wearing show that her family is wealthy

(Opposite) Bundles of sugarcane laid out for the government patrol to purchase. Two cowrie shells or half a teaspoonful of salt is the price of a bundle

it the same in the Jimi Valley. The pig is most important; a man is wealthy if he has ten pigs; despised as a useless person, a ne'er-do-well, if he has none. Near Chimbu when a man is born a pig is killed, when he is initiated into the mysteries of the bamboo flutes a pig is killed, when he marries many are killed, if he gets sick one is killed and he is anointed with the grease, when he dies there is a funeral feast of pork, and after he has been dead for some years pigs are killed at his grave so that he can feast on their spirits. At any ceremony of his tribe, such as dances or harvest festivals, there is a pig feast also. So it is not surprising that he watches over his pigs almost as if they were children, and men divorce wives who do not tend the pigs properly.

Next day we followed down the stream by our camp; this was the Ganz, a tributary of the Jimi. Most of the way was through gardens and many of the people gathered to watch us go by. Men would point me out to their children, probably saying, "That's

one of the white men you have heard about," and the child, naked and pot-bellied, would stare with wide eyes, half curious and half afraid, likely to cling to his father's legs and cry at any sudden movement. Later in the journey we found the men and women were quite as curious about the white man as were the children, many not having seen one before, though all had heard about this strange being from friends living on the plateau.

The level of the valley fell quickly and the police recognized trees and plants that many of them had not seen for years—breadfruit, certain kinds of bananas and yams—for we were between two and three thousand feet up and the plateau is mostly five thousand feet and higher. Even the smells were different: a moister, more jungly smell than that of the highlands greeted us.

Parties of men stopped us and asked us to camp near their villages, but it was still early in the morning. These invitations were no doubt inspired by a desire for the cowries and salt we would distribute. They are a fine





muscular type, these mountain men—on the short side, big-chested, with sturdy legs. Their 'dress' displays their bodies to the best advantage; it is only a carved belt of bark with a strip of netting hanging from it in front to below the knees, and a bunch of leaves, renewed from time to time, pushed through it at the back. Some wore head coverings of netting or mulberry-bark cloth, and some were decorated with necklaces of cowries or strings of small shells draped over the nose, resting on twigs piercing the flesh. The young men used flowers or bright leaves effectively in their hair or on their foreheads.

The older men were generally bearded. Where shaving is necessarily a matter of pulling out individual hairs, or scraping them off with a chip of stone, there is much in favour of a full beard. The beard was used as a pocket and one man was seen with human finger bones tied to wisps of the hair. I thought they were his own as he had lost the tops of two fingers of his left hand, but

he said they were his brother's, who was killed in a tribal fight, and he had cut his own off with his stone axe in mourning. This amputation of finger joints is a common way of expressing sorrow, showing beyond doubt that the mourner is sincere.

All the men we saw carried stone axes, thrust through their bark belts or resting on their shoulders. This stone axe is a lovely thing; the stone is a thin slab ground to graceful proportions, with a sharp curved edge like a battleaxe. The T-shaped wooden handle is carved and partly covered with fine cane of two colours woven into designs, and sometimes decorated with bands of fur. The whole axe shows the skill and pride of workmanship of these primitive people. I had been asking them where these axes were made, and about midday some men who had accompanied us from our camp pointed across the river and said, "That's where our axes come from." The other side of the river was merely a jungle-covered slope, but they said there was a quarry for the stones there,



*Stone axes carried by the men are beautifully proportioned and ground*

so we camped, and with difficulty forded the river and saw the quarry.

Two men started work on axe blades as we watched. They took blocks of stone, split them with blows from other stones, and split again until they got suitable slabs. Holding these slabs they carefully chipped flakes off, using stones held in the hand as hammers. It was not long before one man had a good blade chipped out. The chipped blades, they told us, are taken home and ground in the villages.

In the next two days we saw many men at work grinding. Each village had its 'factory', where up to ten men worked together making blades. The factory was always in a shady place, either beside running water or with a number of holes in the ground that had collected rain water. The man sat cross-legged beside the water, with a block of sandstone on the ground in front of him, and dipping the blade in water, rubbed it back and forth, back and forth, on the sandstone. Every now and then he would pause to wet it again, and examine its surface and shape. Carved pieces of wood were soaking in the water to be made into handles. Probably central New Guinea is the only place in the world where stone axes are still made.

The axes when complete were exchanged with the people of the plateau for cowries and occasionally steel. We saw half a dozen men in the Ganz with steel knives, which they said had come from near Mount Hagen. The tribes living near the Government and mission stations can obtain shell and steel by selling local foods, and the steel is gradually becoming common. Despite the spread of steel, the plateau people still form a good market for the stone axes, which are used now more as money than as tools. When a man marries, his clan must give so many axes to his wife's clan; and when a man is killed, compensation must be paid in stone axes, pigs and shells.

The huts in the villages were well made, waterproof and sturdy, but very low. The top of the door was three feet above the ground, and it was impossible to stand up in a hut. The huts were oval in plan, thatched with grass, and walled with bark or grass between a double row of stakes. Inside there was a partition dividing an inner room for sleeping from an outer room for cooking and talking. A low porch outside



sheltered firewood. Near the doorway, pushed into the wall or the roof, there would be bows and arrows, and against the wall perhaps one of the big fighting shields, about five feet high and nearly a yard wide. A hut was seldom occupied by a family; a husband slept in the communal men's house, and a wife in a house with other women. Further up the Jimi Valley we found the Chimbu custom of men's club-houses and separate houses for each wife. This must have many advantages where a man has several wives.

In one of the villages we saw a man with a remarkably pale skin. There are some on the plateau who excited the interest of the exploring patrol in 1933. The people in general are of the brown-skinned negroid type, usually known as Papuans, but this man had blue eyes and a pale reddish skin. Picking the cleanest place on it, I compared it with that of my own somewhat sun-browned arm and it was noticeably lighter.

I said to him, "If you had a wash you could pass for a white man."

"I'd rather stay as I am with my friends. I don't want to be a white man," he replied.

The day for us began at five, an hour before daylight, when everyone got up, had breakfast and broke camp. Soon after daybreak we moved off, and had the first rest about nine, and then rested more and more frequently as the carriers tired. Much of the travelling was across steep valleys, and often at the end of eight hours' march the previous camp could be seen only four or five miles away by airline, but there were many thousands of feet of climbing up and down in between. Camp was made between noon and 2 P.M. to give the local people time to come to us and bring food. At five the food was arranged in thirty equal piles and issued, and if we had bought a pig it was butchered and apportioned. At six the police paraded and watches were posted for the night.

Besides enabling an early start, and so an early camp, waking everyone an hour before daylight was a safeguard against a surprise attack at dawn, which is the favourite hour with many tribes. This precaution, and the nightly posting of watches, were both unnecessary; we saw no sign of hostility and had an excellent reception from the people throughout.

On the ridge a mile or two above one of our camps we found a peculiar arch across the track. At the feet of the arch, in little shelters to protect them from the weather, were flat stones set in the ground and painted in various designs. The arch itself was of wood and through it two long spears pointed outward. The natives who were guiding us said the arch was to keep away their enemies from across the river. The stones were magical, and any enemy coming through the arch would be affected by them, become ill, and die. An arch like this seemed a most useful thing to have, especially in the present state of world affairs. I asked if it was effective, would not their enemies ignore it or go round it? "Oh no," they said, "they come along the track and see it and are so afraid that they run away at once."

When we came to the Jimi River it was in flood, and the bridge that our guides expected to find had been washed away. The river was roaring through a gorge, carrying tree-trunks and debris, and we saw the body of a drowned woman on the bank. We scrambled along the side to another bridge, which was old and in a bad state. It was made of lawyer vine, three bundles of vines in the shape of a V. One walked on the lower bundle and held the two upper ones. The cane was old and brittle, and some of the strands had broken. The carriers looked at it and said that they would not cross it. They were all mountain men, unable to swim, and nervous of bridges and rivers. Perhaps we could have strengthened it with fresh vine, but that would have taken two or three hours, finding the vines and getting them into position, and there was the usual food problem—we had to reach a village before nightfall. The bridge looked as if it would stand our passage, so after trying it the police and I took the cargo across, a slow job as only one man could be on it at once, and he had to move with care. The carriers, finding themselves left, plucked up enough courage to cross. The last man over was a native constable and when he was in the middle one of the bundles of vines broke completely but he nonchalantly continued on the remaining two.

Whenever we camped in a village hundreds of villagers gathered to watch everything we did. They were a noisy, laughing crowd, shouting with glee at the sight of what to



*Suspension bridges are often the only means of crossing the swift mountain rivers. The two pines at the end of this bridge over the Wagi River were specially planted to support it*



them were unusual things. The way we converted small bundles of tent flies into large weatherproof rooms amazed them, and closing and opening my telescopic camera tripod was always good for a gasp of astonishment and a laugh. I remember in one village, wanting to have a bath out of a bucket, I shooed the people away from the door of the tent, but they kept returning and peering inside. An old man, to whom I had given a present of a looking-glass, seemed to understand what I wanted, and speaking angrily to the others, fastened some leafy branches across the doorway to prevent anyone looking in, but crawled under them and sat down inside to watch me himself.

We noticed, as we moved up the valley, that the ditched, 'chessboard' gardens became more common.

Another change was in the appearance of the people. In the upper part of the valley they were much better decorated than in the Ganz, and wore head-dresses of cassowary or bird of paradise feathers, and many shells on the face and chest. A warrior in full decoration was a fine sight with his bright feathers, white cowrie shells on a dark skin, and gleaming mother of pearl on his face and chest.

The ovens that we saw near each hut were constant reminders that this was the Stone Age. They were either holes in the ground, or large wooden pots which were filled with heated stones and food in alternate layers. The only other way of cooking, putting the food in the ashes of the fire, is used for hurried meals. No method of boiling food is known.

Often the villagers offered to help carry the cargo, and were given the heavier loads, which would be difficult to steal. Bush knives and tomahawks had to be watched carefully, and the natives were not allowed to carry them; the temptation to steal would be great, and one successful theft leads to others, and may lead to an attack on the party. Usually after an hour or two the temporary carriers would tire, be given cowrie shells or salt, and go back.

After leaving the Ganz the level of the country rose, and nearing the head of the Jimi our camps were at five and six thousand

feet. In the mornings we could see ahead of us Mount Wilhelm, the highest mountain in the Territory, with its many rocky peaks reaching over 14,000 feet. To the southwest of it was another high mountain, Herbert, and between the two was a pass of 11,000 feet, where a native trade route led back to the plateau.

We camped at the last settlement below the pass, and bought as much food as we could for the journey over the range. The natives said that they did it in one day, but with carriers we expected to take two. Next day we reached the top in eight hours and camped, hoping to obtain a view and compass bearings in the morning. It was foggy and raining steadily, and the carriers, exhausted after the climb, were dispirited and had to be driven into putting up shelters for themselves. Even the police were grumbling, and in the evening I overheard one say, "Oh, why wasn't I born a girl? Then I would have stayed in my village and not have joined the police, and not be here now." The laughter that followed this showed that things were not as bad as they seemed.

It rained all night and next morning it was still foggy and raining, so we began the long descent to the Koronigl River and the plateau.

We plunged and slipped down the steep track, gradually finding signs of humans—a snare for opossums on a branch across the track, a glimpse through the mist of a garden clearing down the valley, or footprints of pigs roaming up the mountain from a native's house below.

About 2 P.M. we reached the first settlement, where friends of the carriers brought us sugar-cane and helped with the loads. They shouted the news of our arrival from house to house down the valley. For the rest of the afternoon it was easier marching along better tracks leading to the flat open Wagi Valley and Chimbu Post, the end of the patrol.

But all this seemed anti-climax; for the journey was over when, coming out beneath the clouds on the mountain-top, we saw in the distance, green and sunny, the familiar country near Chimbu, with its gardens and copses of casuarinas, and the carriers sang as we hurried down towards it.

# The Dawn of History in Iraq

by Major H. M. BURTON

*Today Iraq is associated in the minds of most of us with the clash of events in the world conflict. But we should also remember that Iraq, the ancient Mesopotamia or Land between Two Rivers, is the region where some of the earliest vestiges of civilization have been found in cities, made familiar to us through the Bible, which flourished thousands of years ago*

FROM the time of the Mongol devastations of the 13th century up to her admission to the League of Nations in 1932, Iraq, or Mesopotamia as she was formerly called, had remained backward and neglected. But her earlier history is one of the most fascinating in the development of civilization. For Iraq has proved exceptionally rich in archaeological finds, and of recent years there have often been as many as a dozen expeditions from various nations simultaneously in the field.

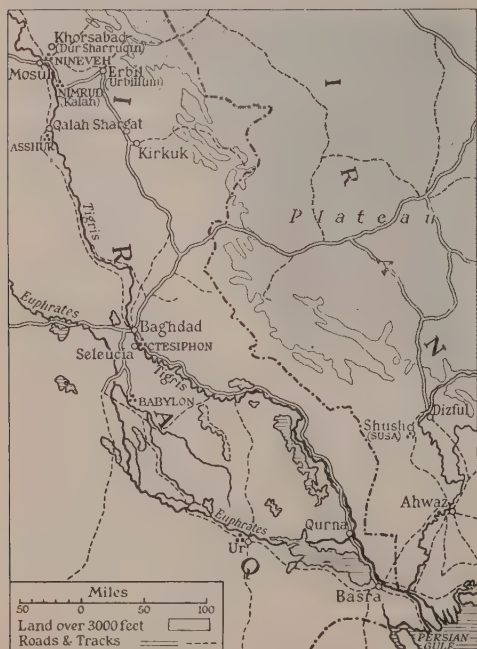
At Ur, the famous site to the west of the lower Euphrates, excavated under the direction of Sir Leonard Woolley between 1922 and 1934, much was discovered about the early Sumerian civilization, and other periods throughout the four millenniums preceding the Birth of Christ.

The origin of the Sumerians, a non-Semitic race, has not been definitely established. When first heard of they were inhabiting the country at the head of the Persian Gulf. They appear to have reached a comparatively advanced stage of civilization during the fourth millennium B.C. A system of irrigation by canals had been introduced, considerable industrial progress achieved, and cuneiform writing on clay tablets inaugurated by about 3500 B.C. An elaborate social and commercial etiquette had been evolved, and a religious ritual was observed.

Ur is that Ur of the Chaldees referred to in Genesis xi, 28 and 31, and xv, 7, and in its early days was evidently an important port on the northern shores of the Persian Gulf, which has since receded owing to the silt brought down by the rivers Tigris and Euphrates and deposited at their delta throughout the ages. Anyone who has flown over the country between Baghdad and Basra during a high flood season, when land is scarcely visible, can appreciate how easily a great flood such as that described in Genesis can occur in a country so flat that in many places the rivers appear to flow above the level of the surrounding land. The layers of silt deposited by early floods can be clearly discerned in the excavations at Ur. It was from this place that Abraham set out on his long journey north to Haran about 1900 B.C., and it is probable that Moses, when living with the Midianites, visited it about 1500 B.C.

Nor far from Ur, Qurna, at the junction of the rivers Tigris and Euphrates, marks the most generally accepted site of the Garden of Eden, though it is difficult to imagine an alluring spot in that arid waste, nor is the preservation of an ancient tree, long dead, which the local inhabitants claim to be an offshoot of the Tree of Knowledge, calculated to foster illusions.

The site of ancient Babylon, lying south of



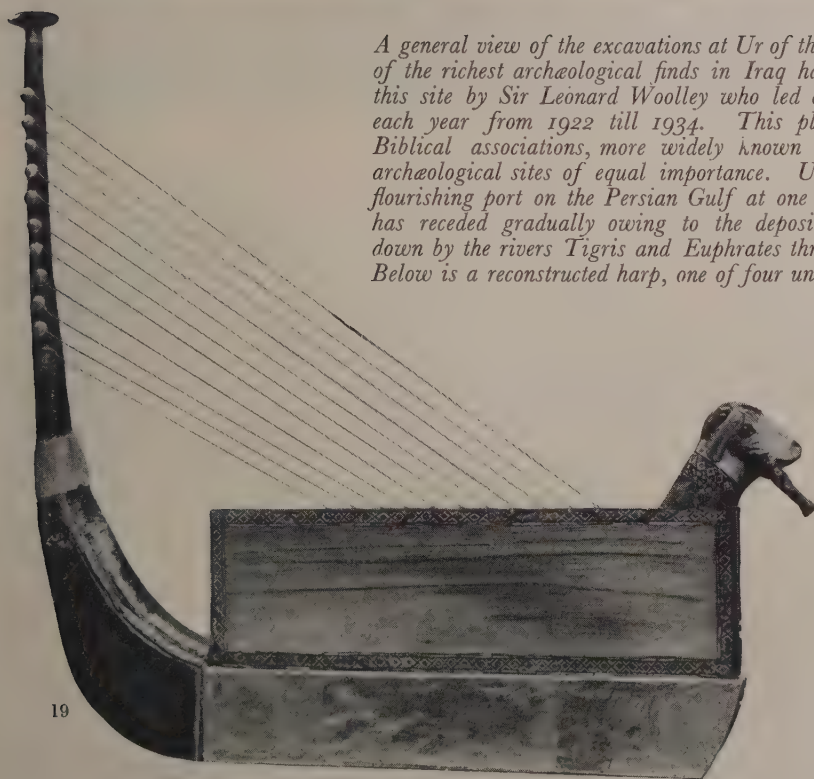
Stanford, London





*H. J. Shepstone*

*A general view of the excavations at Ur of the Chaldees. Some of the richest archæological finds in Iraq have been made on this site by Sir Léonard Woolley who led expeditions to Ur each year from 1922 till 1934. This place is, owing to Biblical associations, more widely known than many other archæological sites of equal importance. Ur was evidently a flourishing port on the Persian Gulf at one time, but the sea has receded gradually owing to the deposit of silt brought down by the rivers Tigris and Euphrates throughout the ages. Below is a reconstructed harp, one of four unearthed at Ur*





L.  
Babylon



Baghdad not far from the Euphrates, was investigated by a succession of archaeological expeditions before 1914. Founded during the latter part of the third millennium B.C. by Semitic immigrants from the west, Babylon was for some 2000 years the most important political, commercial and industrial centre of the world. The Babylonians, like the Elamites who had overrun the Kingdom of Ur about 2320 B.C., and the nomadic Akkadians, assimilated much of the Sumerian civilization. Hammurabi (2100 B.C.), famous as the founder of the earliest legal code known in history, overcame the Elamites and incorporated their kingdom in the Babylonian Empire, which stretched from the Persian Plateau to the Mediterranean, and from the Highlands of Anatolia to the Persian Gulf.

Although most of the antiquities unearthed at Babylon have been removed to museums, it is still possible to obtain from the excavations some idea of the general lay-out of a city which must have been one of the most magnificent and impressive capitals of any epoch in history.

Herodotus, who visited Babylon in the 6th century B.C. shortly before its overthrow by Cyrus the Persian in 539 B.C., gives a glowing description of its architectural features, particularly its massive outer walls, fortified by 250 towers. At that time the river Euphrates flowed through the centre of Babylon, though it has since shifted its bed some distance to the west.

Among the excavations can be seen such familiar Biblical sites as the lion's den into which Daniel was cast; the paved floor of Belshazzar's banqueting-hall, in which the writing on the wall appeared; the supposed site of the Tower of Babel; and the remains of the famous Hanging Gardens, considered one of the Seven Wonders of the ancient world, built by the Chaldean king Nebuchadnezzar for his Assyrian queen to console her when exiled from her native mountains.

The Babylonians were particularly gifted in mathematics and astrology, and it is believed

*An unusual view from the air of the famous Arch of Ctesiphon, once part of the winter residence of the Parthian Kings. With a span of over 85 feet it is said to be the largest unsupported arch in the world. The lower picture shows one of the sculptured lions that adorned the Sacred Way at Babylon*

that they were the first people to divide the day into 24 hours, the hour into 60 minutes, and the minute into 60 seconds.

Seleucia, some 40 miles north of Babylon and 18 miles south of Baghdad, was founded by Seleucus, one of Alexander's generals, thus shifting the centre of trade and industry from the Euphrates to the Tigris. The population of Babylon was rapidly attracted to this new centre and within two or three generations the ancient capital was in ruins.

On the eastern bank of the Tigris, opposite Seleucia, stands the finest and most conspicuous monument of Iraq's ancient glory, the great Arch at Ctesiphon—a familiar landmark for many miles in that flat country. The city of Ctesiphon was founded by the Parthians from Khorassan during the first century B.C., but the arch is the work of Chosroes I, the Sassanid ruler, *circa* A.D. 530. All that remains today of the great structure is the northern façade and about half the vaulted hall. In 1864 both wings of the huge front were standing and twice as much of the arch as remains today. The Turks authorized the destruction of one wing to provide materials for building the neighbouring village of Sulaiman Pak, which contains the mosque of Sulaiman, barber of the Prophet Mohammed.

It is believed that all the arches and pillars on the building were originally encased in marble, while across the vast opening of the hall was hung the famous carpet, measuring 70 by 60 cubits, described by the Arab historian Tabari. According to him it was woven in the pattern of a garden, the ground in gold and the paths in silver, the meadows were of emeralds and the streams of pearls, the trees, flowers and fruits of diamonds and other precious stones.

Iraq flourished under Sassanian rule, and the wonderful irrigation system of the Babylonians was still further developed. Some idea of the immense wealth of the country may be gained from the estimation of an Arab historian that the loot taken by the Moslem armies at the sack of Ctesiphon in A.D. 637 amounted to the equivalent of about 20 millions sterling.

The early history of Northern Iraq is chiefly concerned with the Assyrians, whose fortunes were for long interwoven with those of the Sumerians and Babylonians.

At Asshur, standing near the modern Qalah



Two views of the mosque at Kadhimain, five miles north-west of Baghdad, sacred to Shiah Moslems as the burial place of two Imams. The domes and upper parts of the minarets are covered with gold-plating which shines brightly in the sun and renders the mosque a conspicuous landmark from the air. The flat roofs of the houses which are built very close to the outer walls of the mosque provide nesting places for large numbers of storks each spring. More than half the Moslem population of Iraq are Shiah and Kadhimain, with the Holy Cities of Kerbala and Najaf on the Euphrates, is visited by thousands of Shiah pilgrims every year. (Opposite) The excavations at Babylon, showing reliefs of the sacred bull and dragon on the Ishtar Gate. Below is a 'close-up' of the same reliefs

Black Star

By courtesy of the Iraqi Legation







*Margot Lubin*





Black Star

*The tomb of Zubeidah, wife of the famous Caliph Harun al-Rashid (A.D. 786-809). She is supposed to have written the tales known to Arabs as 'The Thousand Nights and a Night' and to Europeans as 'The Arabian Nights'*

Shargat on an elevation of great natural strength close to the Tigris, remains of fine buildings constructed of large blocks of stone and marble have been revealed. Marble is still quarried in the Mosul district and is largely used in building today, particularly in the town of Mosul. It seems probable that the Assyrians derived their name from Asshur or Assur, whence their capital was moved to Nimrud (Kalah) on the left bank of the Tigris by Sargon, an Assyrian general who usurped the throne in 722 B.C.

This latter site contains the palaces of the Assyrian monarchs Ashur-Nasipal, Shalman-ezer and Tiglath-Pilezer. It was this Sargon (II) who built the magnificent royal residence

at Khorsabad about 15 miles north of Mosul, known also by its Assyrian name of Dur Sharruqin, which has been extensively investigated in recent years by the Oriental Institute of the University of Chicago. The enclosure of the palace is said to have measured a mile square, and to have been capable of accommodating 80,000 people.

But it was Sargon's son, Sennacherib, who was the most famous of all Assyrian kings. He completed the overthrow of his rival, Babylonia, destroying its capital in 689 B.C. and moving his own capital again from Nimrud to Nineveh, just east of the modern town of Mosul, where vast mounds still mark the site of this once splendid city. Much knowledge of contemporary history has come from the inscriptions in cuneiform writing, which the Assyrians learned from the Sumerians, carved on stone and alabaster.

At Nineveh, Layard discovered the library of Asshurbanipal, grandson of Sennacherib, consisting of 22,000 clay tablets, now in the British Museum, where the huge figures of winged bulls with human heads from the Assyrian sites in Iraq are familiar to visitors.

The 8th and 7th centuries B.C. were the most brilliant epoch of the Assyrian Empire, which stretched from the Persian Gulf to Egypt, far up into Anatolia and towards the Caucasus. Contact with the Hittites in the west led to the introduction of iron, and the Assyrian army was the first to be equipped with iron weapons. Excavations in the palace of Sargon at Nineveh revealed two hundred tons of iron implements contained in a single arsenal room.

One of the principal cities of the Assyrians was Erbil, known as Urbillum in the days of the kingdoms of Sumer and Akkad, and Arba-ilu ('The Four Gods') in the heyday of the Assyrian Empire. It can probably justify its claim to be the oldest continuously inhabited town in the world, as it was certainly occupied before 2200 B.C. The greater part of the old town stands today on a vast circular





Paul Popper

*This primitive craft known as a Gufa is probably the Biblical coracle and is used on the Tigris for the transport of donkeys, bricks and melons. It is constructed of basket work or the fronds of date palms coated with bitumen and is difficult to control owing to its circular movement in the treacherous currents*

mound rising some 100 feet above the level of the surrounding plain, giving the impression of a huge fort, by which term it is, indeed, known to the modern inhabitants.

According to local legend this great pile contains the debris of seven ancient cities, but until the people can be induced to abandon their unhealthy surroundings on the mound, the archaeologist will continue to be baulked of what should prove a particularly rich site. It was near here that Alexander the Great defeated Darius III (Codommanus) in 331 B.C. at the famous battle of Arbela, which decided the fate of the Persian Empire.

Not far south of Erbil, in the vicinity of Kirkuk and the oilfields, is an interesting

natural phenomenon in the shape of tongues of flame sprouting from the ground, which is said to be the site of the Biblical "burning fiery furnace".

It would certainly not be difficult to qualify as a fire-walker in the 'furnace' as it exists today, since the flames are of negligible proportions.

The reputed tomb of Daniel stands in a mosque on the ancient circular mound on which Kirkuk, like Erbil and Aleppo, is built.

The four great cities of Mesopotamia—Babylon, Seleucia, Ctesiphon and Baghdad—which for 4000 years played such an important part in the commercial life of western Asia, have all been situated within a

circle of thirty miles radius at the point where the Tigris and Euphrates approach each other. This is no doubt due to the convergence of land trade routes in this area, coupled with the proximity of two great rivers suitable for water-borne traffic.

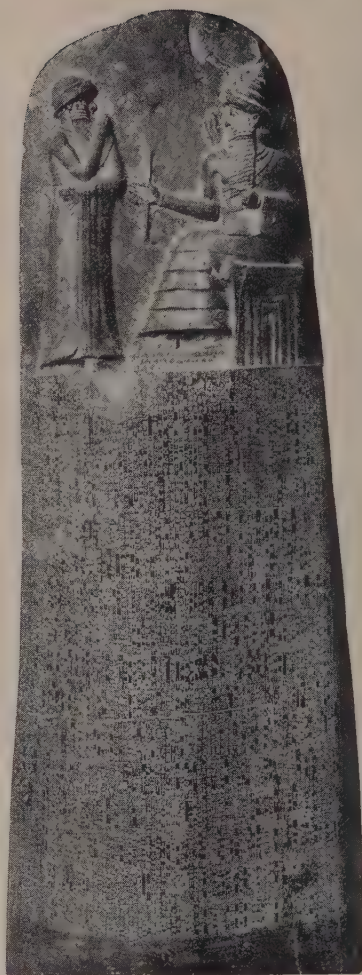
Baghdad, the present capital of Iraq, which has been the principal city of the country since the 8th century, is disappointing from a historical point of view, for practically nothing remains of its early buildings.

On the collapse of the Omayyad dynasty in 749 A.D. the Abbasid Caliphs moved the centre of the Arab Empire to Iraq, and the second Caliph, Abu Ja'afar al-Mansur, following the habit of so many Oriental rulers, decided to build an entirely new capital. In A.D. 762 he laid the foundations of the famous circular city on the right bank of the Tigris. It was constructed largely of bricks obtained from Babylon and Ctesiphon, and the fact that it was completed within the short space of four years indicates the mushroom-like rapidity of its growth, and perhaps partly explains why not a trace of it remains today, although it must be remembered that Baghdad has had to withstand many sieges and floods. The original city was a mile in diameter, and was laid out in concentric circles, with the Caliph's palace in the centre, surrounded by the various Ministries.

Owing to a ban on bazaars within the round city, another trading quarter sprang up on the left bank of the Tigris, which soon outstripped the original city both in size and magnificence.

Under the Caliph Harun Al-Rashid (A.D. 786-809), the Abbasid dynasty reached the zenith of its fame and prosperity. One of the few remaining buildings from this early period is the tomb of Harun's wife, Zubeidah, author of the *Arabian Nights*, which stands a mile or so from the west bank of the Tigris.

While Harun was probably the ablest of all the Abbasid Caliphs, Europeans have rather tended to exaggerate his importance at the expense of Mansur, the founder of Baghdad, and Mamun, the son of Harun, who was a most intellectual man, and did much to encourage learning. The Abbasid dynasty, although Arab as to its language and

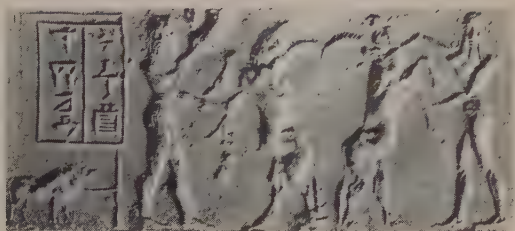
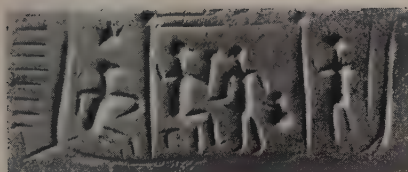


W. F. Mansell

religion, was largely under Persian influence in policy and administration. During Harun's reign Baghdad was second only to Constantinople in size, commercial importance and as a centre of culture and learning. Its population at this period has been estimated at about two millions, a colossal figure for those days.

This was undoubtedly the golden age of Islam. In the spheres of astronomy, philosophy, physical science, literature, geography and particularly surgery and medicine, the Arabs made important contributions which





(Opposite) Code of Laws drawn up by Hammurabi, King of the First Dynasty of Babylonia (2100 B.C.). This stele was discovered at Shush and is now in the Louvre. (Above) Impressions from cylinder seals discovered at Ur. The one at the bottom belonged to a viceroy in the reign of Ur-Gur, King of Ur (2500 B.C.), and shows worship of the Moon God



W. F. Mansell

constitute a cultural and intellectual bridge between the decay of Byzantium and the birth of the Renaissance. To Arab sailors we owe the Mariner's compass, and to Arab medical students the beginnings of chemical pharmacy.

Since the last war, and particularly during the past ten years, much has been accomplished in the construction and development of a new Baghdad. When General Maude entered the city in March 1917, he issued a proclamation to the inhabitants in which he

stated—"It is the wish, not only of my King and his peoples, but it is also the wish of the great nations with whom he is in alliance, that you should prosper, even as in the past, when your lands were fertile, when your ancestors gave to the world literature, science and art, and Baghdad was one of the wonders of the world." That wish will be echoed by all Englishmen who, like myself, have spent some of the most pleasant years of their lives amongst the peoples of that truly fascinating country—the Land of Two Rivers.

# Invasion Threatened Britain

## II. The Jacobite Risings

by GEORGE SCOTT-MONCRIEFF

*The first article in this series appeared in October last and described Napoleon's preparations to invade the British Isles. Though only one landing of foreign troops was actually attempted in connection with the Jacobite Risings described by Mr Scott-Moncrieff, they were largely subsidized by foreign powers and designed to overthrow the Crown and the Constitution*

NEITHER the campaign of 1715 nor that of 1745 was, strictly speaking, an 'invasion' of Britain, for although Scots marched into England the two countries had, since the Union of 1707, been officially one, legally constituted under the joint name of Great Britain. Both James, the 'Old Pretender,' and his son counted on help from French troops, but in neither case did reinforcements arrive, and such foreign troops as were engaged were the Dutch levies fighting in the Hanoverian cause.

Properly, the only Jacobite invasion was the comparatively insignificant affair of 1719, when 300 Spanish troops landed on the shore of Lochalsh. They were intended to start a rising in the north, and create a diversion while a far larger Spanish force, under the command of the Duke of Ormonde, was to land on the English coast. Contrary winds scattered the main Spanish fleet. In the Highlands the Spaniards, with a few Jacobite supporters, were worsted in a skirmish at Glenshiel, and thereafter they surrendered. That was the end of the invasion of 1719.

It was at the end of December 1715 that James Stewart landed at Peterhead with a mere half-dozen attendants. He had left France in disguise, after more than one attempt on his life, taken ship from Dunkirk, and sailed through the Hanoverian fleet. Nothing succeeds like success, nothing is so despicable as failure, and the luckless Stewarts have been generously maligned. Yet it is plain that James was a man of considerable personal courage. He was also consistently honourable both in his public and private life. But the vicissitudes of his career had left him with a mournful bearing not calcu-

lated to inspire a cause, and Peterhead in winter was perhaps the last place in Scotland for such an arrival as his.

In summer, with the sun shining on its rough pink granite, it can be a pleasant spot: in winter the town with all the bald Buchan coast is liable to be blotted out by a drenching mist that hangs in the air for days on end. James took an ague which, added to his natural gloom, discouraged his supporters, and far from Argyll's prophecy that if "the Pretender lands a very few days will put him at the head of 20,000 men" being borne out, his arrival—without the hoped-for French army—resulted in further diminution of the Jacobite forces.

But James's cause was lost before he arrived. It had been promising enough in the first place. His sister, Queen Anne, had died patently wishing for his succession: and, except for the awkward business of his religion, the general feeling of the British people was of preference for a king of their own nation rather for the importation of a German to rule over them. On the Queen's death the Hanoverian agent, Robethon, declared "the Crown would belong to him who was first there to seize it". And George was first.

There were many powerful Tories in Government circles in London, but most of them were trimmers, and among them all there was no leader. So the opportunity passed.

*A contemporary engraving in which the main events of the Rising of 1715 are pictured. It was first published in The Story of the Rising by Alistair and Henrietta Tayler*

*Rischgiltz Studios*







*Lochalsh on whose shores 300 Spanish troops were landed in 1719 to create a diversion in the north while a lar*





Robert M. Adam

*invading party was to land on the English coast*

The eventual leader of 'the Cause' was a disappointed trimmer, the Earl of Mar. He considered himself insulted by King George—who had good reason to distrust many of his statesmen, but also gave offence by the boorishness of his manner. Mar had kept a foot in both camps, and now came out for James. Taking ship from London in August, he went by Newcastle to Elie on the coast of Fife, whence he travelled north to gather the clans at Braemar.

They were a curious mixture, these supporters of the Cause under Mar. There was the ancient Marquis of Breadalbane; the 'butcher of Glencoe', whose politics are quite incomprehensible. A contemporary said of him that he was "cunning as a Fox, wise as a Serpent, and slippery as an Eel". But he must have been a humorous rogue, for he is described by the Master of Sinclair as "the merriest grave fellow I ever saw". Then there were men like Pitsligo, Breadalbane's antithesis, who survived to fight again in the '45. An intellectual, the friend of Fénelon, a generous landlord, a gentle, noble and courageous character, he had refused all the bribery of 1707 and opposed the Union, which made him outstanding amongst penniless Scottish peers.

Opposition to the Union was one of the main Jacobite planks in Scotland: for the country had suffered severely under its terms. Even Mar, who as Secretary of State for Scotland had done well for himself out of the Union, declared emphatically against it.

The raising of King James's standard was followed by the ridiculous campaign conducted by two bad Generals, Argyll for the House of Hanover and Mar for the House of Stewart. But time was on Argyll's side, and the delay in fighting a decisive action was fatal only to Mar. The two armies skirmished occasionally, feinted and retreated in the country between Perth, Stirling and Dunblane. Again, this conduct was fatal to Mar since his men were largely Highlanders, who as soldiers have always been better at attack than at waiting.

A much better commander was Brigadier Mackintosh of Borlum, who led a detachment of 2000 men south, crossed the Forth by a ruse, losing only one boatload to the Hanoverian fleet that stood by to intercept them, and occupied Leith. Mackintosh, not being a professional trimmer like Mar, was



*By kind permission of the Earl of Dalhousie*

*Henrietta Tayler*

*The gates of Panmure House, in Angus, closed after the battle of Sheriffmuir in 1715 (in which Lord Panmure was severely wounded) and never since opened*

capable of decisive action and later marched south to join the Jacobites of the Border and Northumberland.

These latter were unfortunately led by their M.P., Thomas Forster, a worse soldier even than Mar. His only feat in the affair was his subsequent escape from Newgate, "when", as a contemporary said, "better men than he were executed".

Lord Kenmure brought the forces from the south-west of Scotland to join Forster at Rothbury, the two parties marched north to meet Brigadier Mackintosh at Kelso, and began the march through England that ended at Preston. Forster was pleased at the number of the local gentry and peasants who joined in on the way, but it gave him too many ill-disciplined and ill-armed troops. At Preston he entirely lost his head and with hardly any fighting made abject surrender to

the Hanoverians under General Wills. That was the end of the rising in England.

On November 14, the same day as the surrender at Preston, the battle of Sheriffmuir was being fought between Argyll's and Mar's forces. Both left wings broke, and both right wings were for some time under the illusion that their side had won a complete victory. But although it could not be called a victory for Argyll, it was in effect a defeat for Mar, who now deservedly lost what little trust his colleagues had had in him.

James came south from Peterhead and joined his forces in Perth whither they had withdrawn from Sheriffmuir. The winter was severe, with deep snow, and for some time there was another deadlock, until the Government forces set the country people to clear the roads for an advance. The Highlanders were delighted at the prospect of





*A. E. Robertson*

*'The Prince's Strand', Eriskay, South Uist, where on July 23, 1745, Prince Charles Edward Stewart first set foot on Scottish soil. In the subsequent campaign, his personal courage, disregard for his own comfort and safety, and concern for the welfare of his followers earned for him a romantic affection that has become quite legendary. An early portrait by Largillière shows he was well named 'Bonnie Prince Charlie'*



*Rischgitz Studios*



SCOTT'S ROCK ON COASTION PANAMA



battle, but Mar and his friends had no such liking. The Laird of Glenbucket, the worthy owner of the smallest of estates who somehow became a sort of bogey so that even George II in 1745 was reputed to be in terror of "de great Glenboggied", was probably the originator of the suggestion then made that the loyal clans should take the king out of the hands of his "present imbecile councillors" and then, if he was willing to die like a prince, he should find "ten thousand gentlemen in Scotland who were not afraid to die with him".

But there was more reason on the side of the king's councillors this time, for Argyll's army had been considerably reinforced with Dutch and English soldiers, and was much the better equipped, while no army had been forthcoming from France to help the Jacobites. On the last day of January 1716 the retreat from Perth was begun, the Chevalier leaving in tears. Mar persuaded him to take ship from Montrose back to France, and he sailed on February 4, leaving practically all the money he possessed for the comfort of his soldiers and the relief of the people of the villages burnt in order to hamper Argyll's advance.

Mar himself sailed with James, while the army proceeded, under General Gordon, along the coast road to Aberdeen. When they learnt that they were abandoned, many of the Highlanders made their own way home. Two thousand kept together, in good order, and outpaced Argyll's pursuit so that he made less than a hundred prisoners. Still there were hopes of continuing the struggle, and the last of the army marched to Castle Gordon to discuss matters with the half-hearted Huntly. Then with no hope left, they marched up the Spey to Ruthven, where they disbanded, and, in Field-Marshal Keith's words, "everyone took the road that pleased him best".

\* \* \*

Thirty years after came James's son, Prince Charles. He arrived in summer, in the Western Isles, and his person was as different

from that of his father as was the time and place of his arrival. Eriskay and Loch Boisdale in July are probably as beautiful as any place in the world; the soft and varied lights, the brilliant, but still soft, colouring, the sea and the flowery land, the white shores between—they would fill any man with hope and faith in himself.

But like his father, Charles brought no troops with him, and throughout his campaign waited in vain for an invading army to come to his help.

He took ship from the Isles to the mainland, landing in Arisaig, then sailed down the coast to Kinloch Moidart and Glenfinnan, where now the monument stands. (It was actually erected to the MacDonalds who followed him.) From all parts the Highlanders were coming to his support. Many were chary at first, but were overcome by the bearing and confidence of the handsome and gifted prince of twenty-four years and pledged away fortune and life in his cause. Old Glenbucket hastened over from Aberdeenshire with his sons.

General Sir John Cope had been sent north and was at Dalwhinnie while the Prince was in the Great Glen. From Dalwhinnie, a grim, bald height even in summer, a rough track ran into the more fertile and more lovely country of Upper Speyside, over the river near Laggan, and then across the Pass of the Corryarrick, a wild and frightening place if ever there was one, to Invergarry where the Prince was mustering his forces. Word reaching the Prince of Cope's approach, he quickly led his troops over the Pass, hoping to attack Cope at his camp at Garvamore. But the rather timid General, learning of the Prince's move, had right-inclined to Ruthven, whence he made a disordered withdrawal to Inverness.

Far more effective on behalf of the Hanoverians than General Cope was Lord President Forbes. He, more than any other individual, was responsible for the failure of the '45. A man of the greatest integrity, universally respected, he was able

*Eighteenth-century engravings of two historic battlefields connected with the two chief Jacobite Risings. The indecisive battle of Sheriffmuir (November 13, 1715) was fought on the slope ridged with trees. At Preston Pans (September 21, 1745) the English under Cope were routed by the Prince's Highlanders who went on to capture Carlisle and then marched south to Derby. This march might have been the prelude to a successful invasion of the whole of England had not the Prince's advisers insisted on a retreat*

to persuade many of the chiefs to side with the Hanoverians, or at least to remain passive.

Many more upon whose loyalty he counted suddenly turned Jacobite. His own nephew was one of these.

Families were split over the rival loyalties. Although the Chief of the Mackintoshes became a captain on the Government side, his young wife led a regiment of the clan that distinguished itself by its courage at Culloden. It was in order to join up with the forces raised through Forbes that Cope made for Inverness.

The Prince, deciding not to follow Cope, marched on by Laggan, through the great stretches of purple heather to Dalwhinnie, and then down what is now the main Inverness road, to Blair Castle, in which more fertile and populous country the Duke of Atholl was raising an army in his support.

At Perth he proclaimed his father King. He had been reduced to one guinea in his pocket, but the Duke of Perth and others provided funds. It was at this time also that Lord George Murray, about whose generalship there has been much dispute, joined his company. By way of Doune, at whose Castle he left some prisoners, he marched past Stirling, within cannon range of the fortress, "Collors flying, pipes playing and making the

best appearance he cou'd with his little Army". Colonel Gardiner's dragoons fled from their camp near Linlithgow, and, forcing the Netherbow Port, the Jacobite army entered Edinburgh and the Prince took possession of the Royal Palace of Holyroodhouse.

On September 21 Cope's army, which had come south by sea from Aberdeen, was routed at Preston Pans, a few miles out of Edinburgh. The Castle, however, continued to hold out for the Government. On November 1 the Prince led his army, only some 5000 strong, out of the city on the road to England. They marched by Dalkeith and the foothills of the Muirfoots, crossed the Tweed at Kelso, and then went over the rough Border country to Carlisle. Carlisle was besieged and fell. As usual the Prince and his army behaved very well to the citizens.

Although the Jacobite army was received with much jubilation, bonfires lit and bells ringing at Preston and many protestations of loyalty, they gained hardly any volunteers: only about 300 men from Manchester, and a handful of the gentry from Wales and the West. So that when at last the army reached Derby, Lord George Murray and the other Generals, somewhat bewildered at their own success but doubtful of its continu-

*The battle of Culloden, when an exhausted Highland army met and was beaten by the superior forces of the Duke of Cumberland, on April 16, 1746, was the end of the campaign of 1745. This memorial stone stands near the battle-field and the building behind is said to have been used by the Prince to stable his horses*



*Robert M. Adam*



ance, insisted on the Prince ordering a retreat.

What would have happened if the march had been continued to London is one of the great posers of history. It is at least not unlikely that if the capital had been reached, its citizens, who had still little love for their Hanoverian monarchs, might have turned Jacobite in order to save their city from the wastage of war: in short, the very factor that prevented the Prince from making English recruits might have turned to his advantage. For, unlike most of the Scots who had real grievances against the United Parliament, the English had reached a period of progressive prosperity and security with a consequent and very understandable reluctance to take risks.

The Prince was heartbroken at having to turn away when so near London, but his Generals were adamant. They went back by way of Moffat and Glasgow to the friendly Highlands, the Prince still longing for a fight, with absolute faith in his Highlanders. But when at last the battle came, the Prince's army was in poor fettle, halfstarved, its leaders torn by dissension, while that of the pursuing Cumberland was reinforced by seasoned troops brought from Flanders, well equipped with artillery. The charge of the Highlanders could not prevail against the storm

of grape-shot and musketry that met it, and the Prince's Cause was for ever lost.

The aftermath of Culloden makes appalling history. The wounded were butchered, or burnt alive in the hovels where they took shelter. Cumberland carried fire and sword through the countryside without considering whether his victims had been Jacobite or not. He encouraged his soldiers in their excesses. When the Lord President Forbes, appalled at the inhumanity and illegality of what was being done, protested, Cumberland made contemptuous reference to him as "that old woman".

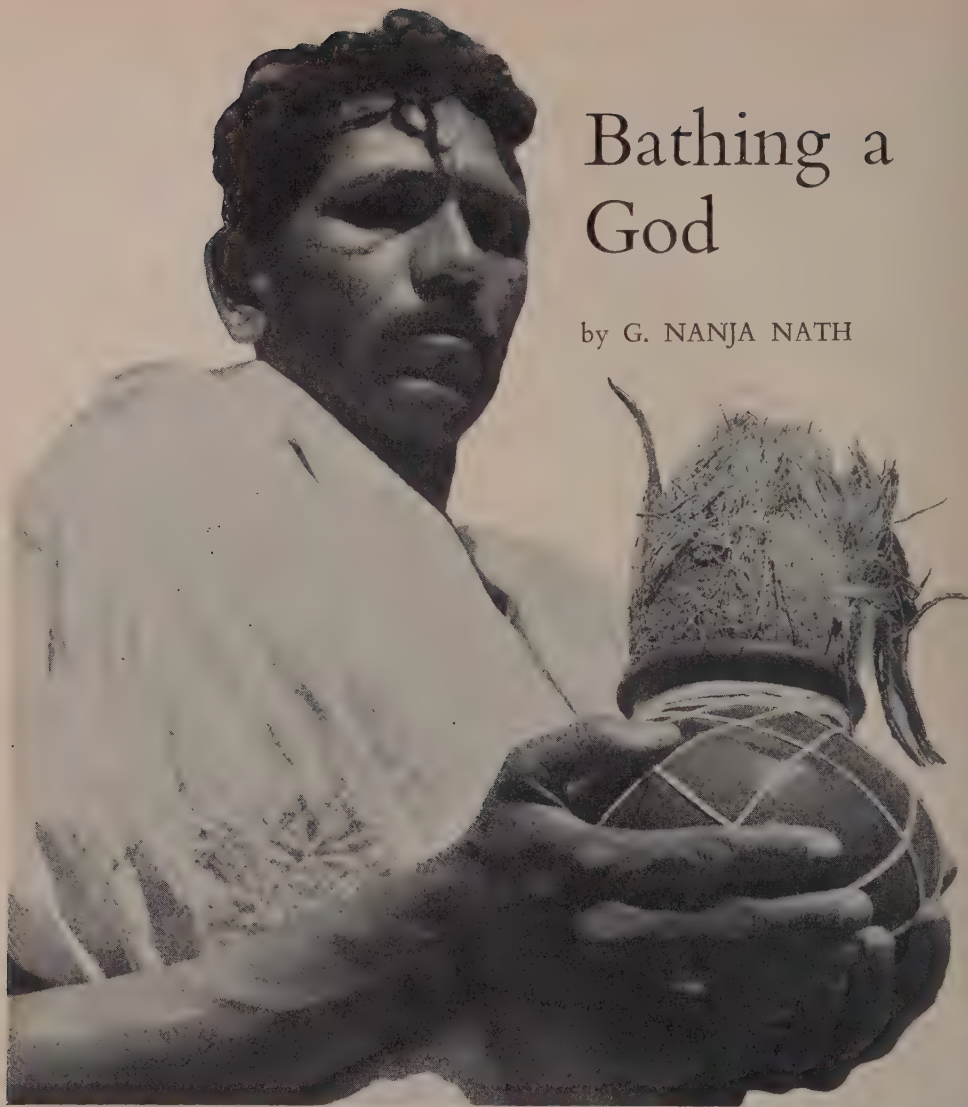
From the middle of April to the middle of September 1746, Prince Charles was in hiding with £30,000 on his head. The story is a fantastic one and an unperishing tribute to the people who gave him shelter and eventually enabled him to escape to France. He never forgot those days through all the weariness and despair of his later life.

One of the last accounts left of him by his daughter describes how, being questioned on his campaign, he told the story with gathering excitement, until he came to describe his loyal Highlanders, when he broke down altogether and fell to the ground in a fit. For all their peril, those days in the heather were probably his happiest.



Rischgitz Studios

*Portrait by Pompeo Batoni of the Prince in exile. All the old dash and fire were eventually damped by disappointment, and he died at Rome in 1788 at the age of 68*



# Bathing a God

by G. NANJA NATH

*The Jain faith, supposedly derived from Brahmanism but in form nearer to Buddhism, includes the worship of a large number of saints. A ceremony connected with one of these is described here. Above is a priest with his oblation of sacred water and opposite is the colossal figure of the saint, or god, Gomatesvara over which he will pour it*

IN India it is quite common for gods to be solemnly bathed every day. Once or twice a year some of them are bathed on a more than usually lavish scale. But when the chance of bathing a god occurs only once in fifteen years, the bath becomes the object of wide interest, a gala occasion for the god as well as his devotees. Such a celebration is the bath-

ing of Gomatesvara, the Jain saint whose huge stone effigy dominates the town of Sravana Belgola, which lies some fifty miles west of Bangalore, in Mysore, South India.

This festival of bathing is called the *Mahā-mastakābhisheka*, meaning in English "the Great Head-Anointing Ceremony", and requires a certain rare conjunction of the heavenly









bodies for its observance. The huge proportions of the graceful colossus, whose head is anointed on that day by a thousand priests, gives to the ritual an impressive character.

Months before the festival is due, a scaffolding composed of thousands of strong bamboos is built round the statue of Gomatesvara, so that the priests can pour on its head the fifteen libations required for the anointing.

Five hundred thousand pilgrims of the Jain sect gather at the town of Sravana Belgola, where the bathing takes place, on the day of the bath. They come from all parts of India and in the crowd one can pick out Punjabis, Bengalis, Gujeratis and Tamils, all of them in holiday attire, which makes the scene a really colourful spectacle.

On the morning of the bath, the courtyard before the colossus is strewn with layers of fresh 'paddy'. On this green carpet a thousand coloured pots filled with sacred water are arranged in rows. Sticking out from the mouth of each is a coconut with ceremonial dressing of mango leaves.

When the ceremony is due to start, a number of Jain priests take up their stations on the scaffold. Each holds in his hands one clay pot brimming over with milk and one with ghee.

At a signal from the officiating dignity, they start the bath by pouring the potfuls of milk over the image. The ghee follows.

After this preliminary anointing, Gomatesvara is worshipped till noon by the Jain priests. On the stroke of one o'clock the great Mahāmastakābhisheka begins.

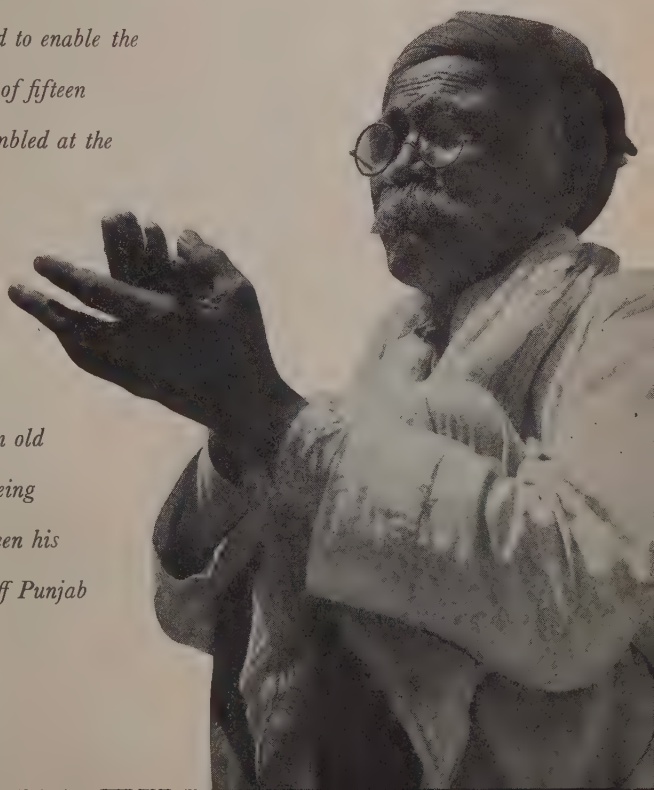
As the appointed hour draws near the thousand priests climb to their places on the scaffold with the pots of water. Suitable music is played by the temple musicians while the priests chant hymns and prayers from the Jain sacred texts. Meanwhile the vast assembly of pilgrims shout ovations to Gomatesvara. Then, at the bidding of the master of ceremonies, the thousand pots of water are emptied over the image.

Following this bath, fifteen other offerings are showered upon Gomatesvara's head. They include plantains, jaggery, sugar, almonds, dates, poppy-seeds, curds, sandalwood oil, flowers made of gold and silver foil, silver coins and nine different varieties of precious stones.

This 57-foot-high colossus whose sacred bath is so enthusiastically performed was carved and set up by an unknown sculptor nearly a thousand years ago—in 1028. The

(Opposite) Scaffolding of bamboos, erected to enable the priests to pour over the god the sacred bath of fifteen substances. A few Jain pilgrims are assembled at the top to pour on the head their individual offerings of water, milk and ghee. At the feet of their god, Jain priests sit and worship. (Right)

"Glory to Thee, O Gomatesvara! Lord of the Universe!" sings ecstatically an old Jain pilgrim as he watches Gomatesvara being bathed. To see that great ceremony has been his life's ambition and he has come from far-off Punjab to Sravana Belgola to witness it







work was carried out at the behest of Chamunda Raya, minister to King Rajamalla, who ruled parts of South India at that time. It stands near the town on one of two rocky hills called Indrabetta and Chandrabetta. It is really part of Indrabetta, for it is carved from a huge granite boulder on the summit and, though surrounded by a high wall, is visible for miles around.

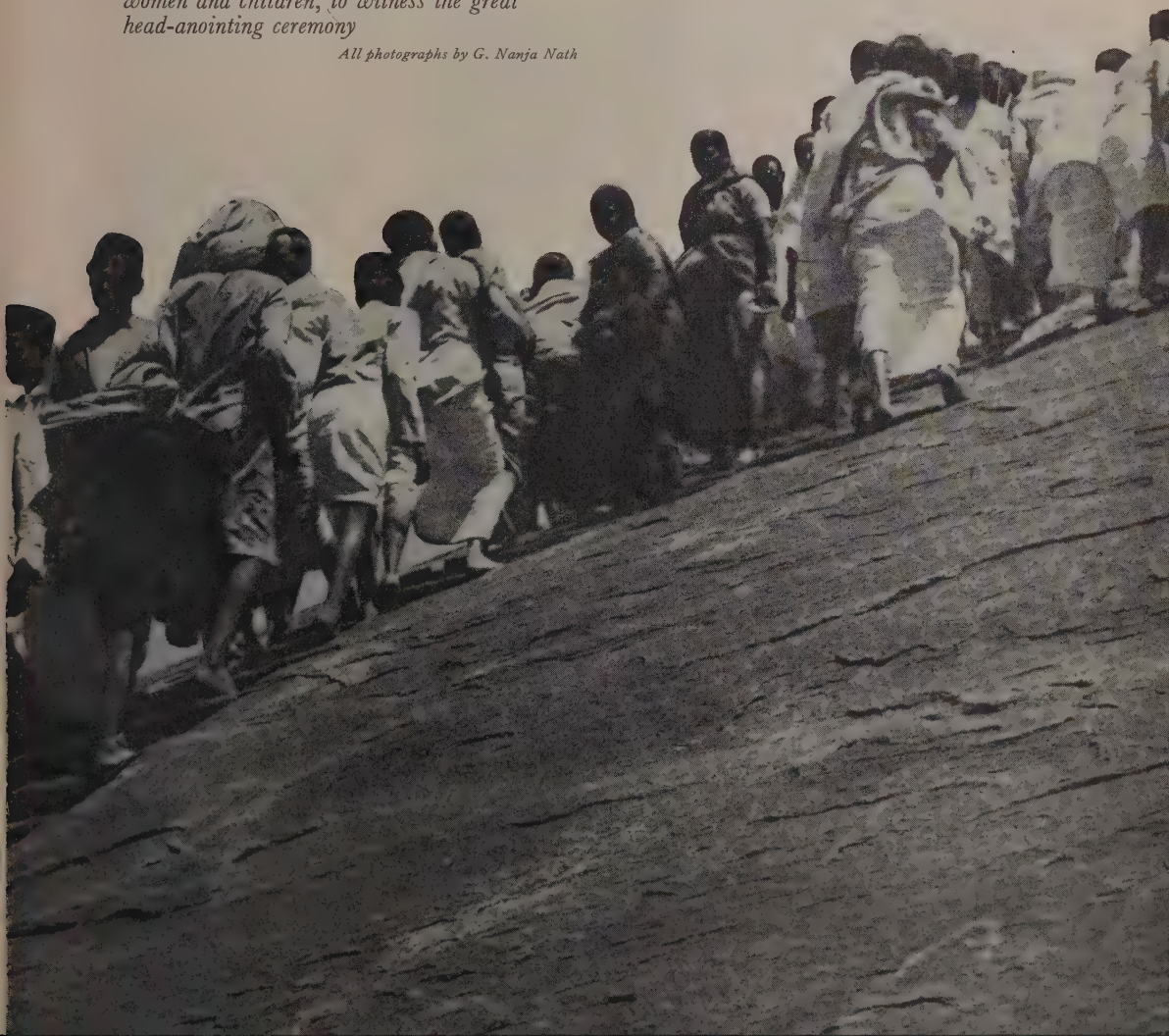
The huge, naked figure is well-proportioned

except for a slight dwarfing of the legs. It is light-grey in colour, which seems to add to its beauty and shapeliness. The serene countenance bears a smile—perhaps, the smile of a saint for ordinary humans and their foibles.

Though ten centuries old, the god is today as fresh in appearance as when the devout Jain sculptor's hand first polished it. Neither sun, nor rain, nor wind has affected this silent sentinel of Sravana Belgola.

*(Opposite) The fort-like walls of the temple do not hide the 57-foot high figure of Gomatesvara from view. Situated on the top of a hill, it is a familiar landmark for many square miles around. (Below) Up and down this rocky hill of Indrabetta come, once in every fifteen years, 500,000 Jain pilgrims, men, women and children, to witness the great head-anointing ceremony*

*All photographs by G. Nanja Nath*



# The 'Silver King'

## A Great Game Fish

by FRANK W. LANE

THE tarpon or 'Silver King' is a most spectacular fish. Clad in gleaming bronze, gold and silver; possessed of abundant energy and strength; performing aerial gymnastics which make it at times appear more like an animated jumping-cracker than a cold-blooded fish, it is renowned as one of the greatest game fishes in the world.

Its home is among the mangroves and oyster bars of the Ten Thousand Islands down Cuba way, in the clear streams of the Everglades and among the hundred thousand quays off the coast of Florida.

A luxuriant medley of palms, yucca, cactus and all the wealth of festooned creepers that characterize sub-tropical forest are found on the islands around which the tarpon waters flow. Often the air above the rivers is fragrant from the blossoms of magnolia, wild orange, or jessamine and the leaves of myrtle and sweet bay. Water-hyacinths and lily-pads carpet the surface of some of the rivers.

Equally gorgeous is the bird life. Heron, cardinal and spoonbill are seen here, while above, the man-o'-war hawk and fork-tailed kite wheel and the graceful flight of herons and white, curved-bill ibis make a pattern in the skies.

Nothing is known about the tarpon's birth. Probably the spawn is heavy and sinks when voided by the hen fish. And it may well be that the young stay near the bottom for the first stages of growth. But whatever the explanation no young tarpon have been caught until they reach a length of some seven inches.

These young specimens have been found in the most unlikely places—turbid and foul pools, sometimes completely land-locked. High water and hurricanes seem to be the chief agents for depositing the young tarpon in such nurseries, although it has also been suggested that the spawn may be carried on the backs of alligators or dropped by birds. But although these inland pools are the only places where young tarpon are ever found, it

would be an error to imagine that the majority of tarpon spend their youth in such unsavoury and un-tarpon-like surroundings.

An expedition was sent out under the auspices of the New York Zoological Society a few years ago in an effort to find out more about the tarpon. Some interesting facts were brought to light. It was found that these fish have a functional lung in addition to the usual gills. Such an organ, of course, enables them to breathe atmospheric air and is no doubt of help when they are stranded in muddy pools in infancy.

This lung and the desire to breathe with it accounts for the well-known tarpon habit of 'rolling'. In this action the fish comes to the surface and partially jumps out. In fact from a distance, especially as the tarpon go about in schools, the traveller might be excused if he thought he had come across a shoal of porpoises.

When ornithologists want to obtain information about the migration, flight and other habits of birds they resort to ringing. The enterprising biologists in the tarpon expedition decided to make use of a similar device, tagging, for the fish they were studying. Two types of tags were used. One a strap-like metal clip placed on the edge of the gill-cover, the other a celluloid cuff-button type of tag placed on the gill-cover. About 350 fish were thus tagged. Some were released in the sea, others were returned to the ponds from which they were taken.

Of the 161 fish released in the sea thirteen were returned. The greatest distance any of them travelled from the point of release was sixteen miles. But a larger tarpon, tagged on another occasion, was found to have travelled twenty miles in a little over two months.

Tarpon appear to be peculiarly sensitive to the temperature of the water. A man looking for tarpon in midwinter said that for days you would not see any fish, but after the sun had been out long enough to warm the water to about 68° F. the tarpon could be seen roll-



*The fish doing aerial gymnastics is a tarpon—one of the greatest game fish in the world. It is found in the waters off the coast of Florida and Cuba. Tarpon weigh up to 200 lb. and are the largest members of the herring family. They are noted for their great leaping powers and when hooked sometimes give a spectacular exhibition*



*Serious accidents have sometimes accompanied tarpon fishing. On one occasion an incident like this occurred, but instead of jumping clean over the boat the fish landed right in it. One of the men in the boat had both his legs broken*



*The spray flies as the tarpon breaks water close to the boat. Notice the great gills through which he gets the oxygen to help him in his acrobatics*



ing at the surface. On another occasion he was waiting for tarpon but the temperature of the water was apparently then too hot. Not until a thunderstorm accompanied by a tropical downpour cooled the water did the tarpon show much activity.

But they made up for it then ! The observer says:

When it begins to thunder, and in the midst of the tropical downpour, the mullet, from fear or for some other reason, move out into deep water, and school. The tarpon then appear on the surface and drive through the schools of mullet, knocking them out of the water and leaping out themselves in their mad hunt. The air is full of jumping fish, both large and small. In the midst of the tropical storm a fish fracas takes place which I have never seen equalled. Swiftly-swimming sharks encircle the frantic fish, picking up the stunned mullet which the tarpon have overlooked.

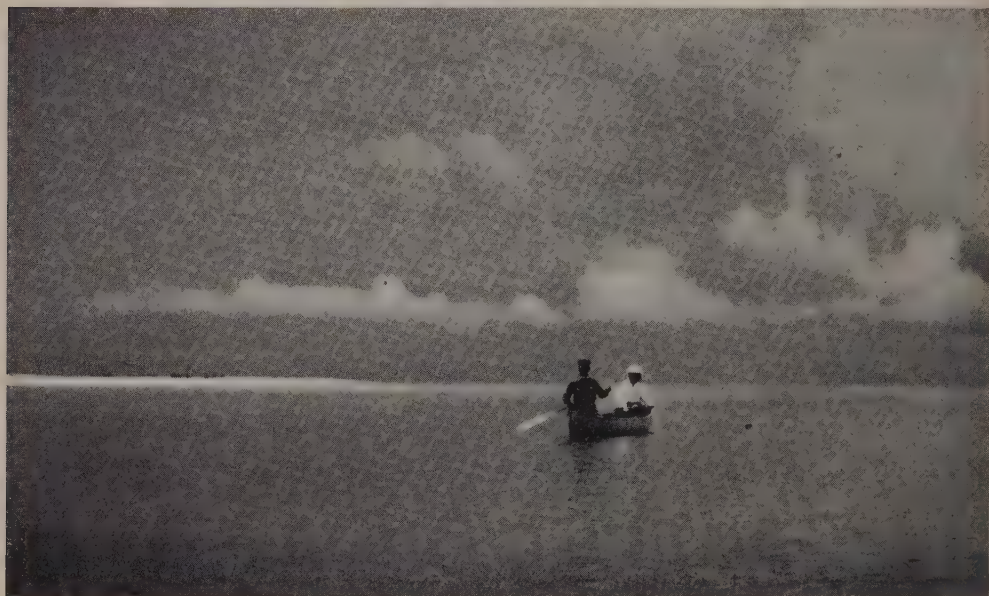
It is not surprising that the Silver King is popular with big-game fishermen. An old American angler once said to a young one, "When you buy tarpon tackle, young man, you've got to remember that you may expect to hook something like a thirty-knot torpedo-boat." He might have added "with the habits of a bucking bronco" as well. Tarpon fishing can be highly dangerous. A tarpon

weighs up to 200 lb. and it is not unusual for it to leap into the boat from which the angler is fishing. One fish has been known to leap clean over a boat and crash into a mangrove tree on a river-bank.

Part of the tarpon's body appears to be specially formed to aid it in its aerial gymnastics: the dorsal fin has a curious modification which is thought to bear directly on its proclivity for jumping. The last ray of the fin is drawn out into a long filament, and it is said that before making a leap the fish "lashes this whip around to one side of the body and clamps it tight to its side". By this means the fin is kept rigidly to one side, and the tarpon is therefore able to determine the course of its jump.

Tarpon have been known to jump eighteen feet into the air and cover an arc of over thirty feet. And they keep on jumping, sometimes making twenty leaps in twenty minutes. One fish threw an angler's bait so high that it was caught by a man-o'-war hawk cruising overhead.

Such then is the tarpon. To the scientist, the largest member of the herring tribe; to the fisherman, one of the greatest of big game fish; to the amateur naturalist and lover of wild life, the Silver King.



*The day's fishing done, the tarpon fishers return home in the glow of sunset*



# China and the Rise of the Kuomintang

by O. M. GREEN

*To understand the impulse behind Chinese resistance to Japanese aggression which has been maintained now for nearly five years, it is necessary to know something of our Chinese allies' history since the Revolution of 1911, particularly the part played by the Kuomintang. Mr Green, for twenty years editor of the North China Daily News and correspondent of The Times in Shanghai, has inside knowledge of the social and political changes that distinguish this period*

As one looks back to the Revolution of 1911, it is hard to realize that under thirty-one years have passed since the last of the dynasties was driven into obscurity and China declared herself a republic, so many and startling have been the vicissitudes through which she has passed and so deeply has her thought been modified.

China has been called a country of many rebellions but no revolution. Through all the periods of chaos which ensued on the fall of successive dynasties, her social and political system has survived unchanged for over 2000 years, to go no farther back than the beginning of the Han dynasty when China first took the definite shape of later centuries. Now at last she was to experience a true revolution, the result of the impact upon her during the 19th century of the Western Powers and of the increasing numbers of Chinese who went abroad, to contrast the orderliness of foreign countries with the misrule and penury of China.

Of this revolution the Kuomintang have been the vehicle and synonym. They were far from perfect as a governing body; they still are. But the parts were greater than the whole. Great men have come to the front through the Kuomintang and, as the centre of the whole Nationalist movement, they were at least associated with, if they could not always claim the credit for, the social betterment that grew from the powerful intellectual ferment always at work beneath the superficial disorders of the civil wars.

It should be understood that the Chinese people have always been strongly democratic in instinct and practice. The Emperor, certainly, was an absolute autocrat, the Son of Heaven. But it was a principle of imme-

morial antiquity that his first duty was to his people, for whose benefit he had received the 'mandate of Heaven' to rule. When he failed in that duty, he was held to have lost the mandate and there was a rebellion. The officials under the Emperor did little more than collect taxes and keep order. All the practical work of government was handled by village elders and guilds—litigation, conducted by arbitrators; minor matters of crime; and the apportioning of taxes between the villagers, the whole village being assessed at so much and then left to divide up the burden as it pleased.

It was on this system that Dr Sun Yat-sen relied when he said that China was naturally made to be a republic. What he failed to see was that it was impossible at one stroke to convert this native practice into a unified system for the whole nation, with alien innovations such as parliaments and general elections, which no one understood. There was no national sense at that time. Provincial differences of climate, custom, temperament and even language; poverty of communications; and the grinding toil of husbandry by which nine-tenths of the people made a precarious living, all tended to divide China into an infinite number of water-tight compartments. The people of one district hardly knew what was happening fifty miles away. Nationality was to come, but not yet.

Like the T'ai ping Rebellion, the Revolution was essentially of southern conception. The southerners, particularly the Cantonese, have always been far more febrile, active and progressive than the more slow-going, conservative northerners. Chinese civilization began in the valley of the Yellow River and it was



*Pictorial Press*



(Above) Ancient Buddhist temple in Jehol, one of the Chinese provinces to be seized by Japan when she invaded Manchuria in September 1931. (Left) Until recent years a road in China meant little more than a mule track, and the wheelbarrow, unchanged in design for thousands of years, was the standard conveyance of Chinese peasants, for human beings, pigs, chickens and farm produce. Although China now has thousands of miles of roads and plenty of motor traffic on them, petrol has to be used sparingly and the ancient wheelbarrow is doing valuable service in carrying supplies to the troops. As it trundles along its one large wheel emits a continual loud squeak. The peasant likes to economize in lubricant but he also likes the noise!





Margot Lubinski

*The owner of this characteristic farmhouse is probably well-to-do for China, since it has an upper storey and the farmer's children are well dressed and evidently well fed. Peasant children begin to help their parents from the age of five or six*

many centuries before it spread to the south, where, partly from climate, partly perhaps from intermarriage with the native tribes, the character of the people so changed that, in going from Peking to Canton, one almost feels as if one were entering a foreign country. Canton is the home of all the most exquisite handicrafts, ivory carving, silk embroidery, furniture, and the beautiful intricate Cantonese enamel. It was a common saying that northerners were the ruling class, southerners the artisan class. And this added to the subsequent discords when the revolutionary southerners aspired to form a government for the country. There was no precedent for it. Precedent was all-mastering in China.

Such were the difficulties under which the Kuomintang were born. The Cantonese had never really submitted to the Manchus. They

had seen with growing anger the powerlessness of the Imperial House to resist the foreigners' increasing encroachments during the 19th century. And after China's humiliating defeat by Japan in 1895, which revealed all the rottenness of the dynasty, there was an abortive rebellion in Canton which for the first time brought to the front Dr Sun Yat-sen, then a man of thirty.

Sun had had a year's schooling at Honolulu when he was fourteen. Then returning to China he went to Queen's College in Hong-kong and eventually qualified as a doctor under Dr Cantlie, who became his lifelong friend and was the means of his being rescued from the Chinese Legation in London in 1896 where he had been kidnapped after the failure of the revolt at Canton. For some time before that event Sun had felt that politics, not medi-



Pictorial Press

*Dinner time in the farmhouse. A bowl of tea on rising, a good bowl of rice at midday and in the evening, are the mainstay of Chinese peasants. They love pork, but it is usually a treat for high days. The flowers in the bottle bear witness to the innate Chinese love of beauty*

cine, was his *métier*. Escaping from China and from the clutches of the mandarins in London, Dr Sun spent the next fifteen years travelling about the world collecting money and organizing revolution. Through his friends in China he created and built up the revolutionary league of the T'ung Meng Hui, which was the parent of the Kuomintang.

The Revolution began quite accidentally with the explosion of a bomb in the Russian Concession at Hankow on October 10 (now famous in Kuomintang annals as "the Double Ten"). Dr Sun's party instantly rose, most of the Government troops in Wuchang, the provincial capital, went over to them, the Viceroy fled, and the revolt spread rapidly down the Yangtse, both Shanghai and Nanking falling to the Nationalists in quick succession. On Christmas Eve Dr Sun, after having extracted a promise from the British

and American Governments that they would remain neutral, arrived back in China and was proclaimed President of the new Republic at Nanking.

The weakness of Dr Sun's position was that although he had strong popular support, including not a few old-time officials such as the well-known Dr Wu Ting-fang and Mr Tang Shao-yi, all the machinery of government was centred in Peking, and he soon resigned the Presidency to ex-Grand Councillor Yuan Shih-kai, to whom the Imperial Family had delegated its authority on abdicating.

Yuan never had the slightest belief in a republic for China. The Kuomintang—"National People's Party" as they were now called after reorganization by Dr Sun—soon suspected that he was trying to make himself dictator, and a second revolution broke out in 1913. It was badly prepared, however, and





Margot Lubinski

*A Chinese riverside town and one of the huge rafts of bamboo which continually float down the rivers to market. For thousands of years bamboo has been to China what iron is to the West, the basis of everything from writing materials to houses*

easily suppressed. Yuan tried to make himself Emperor, was defeated by the strongly adverse feeling in the country, and died in 1916. China staggered through three or four increasingly futile presidencies and relapsed into the civil wars of the Tuchuns, or great generals, planted over the provinces by Yuan. Meanwhile Sun and his chief adherents had once more gone into exile.

The years 1913-22 were a dreary time for the Kuomintang, scattered, incoherent and riddled with little sects all preaching different panaceas. But in 1922 Dr Sun returned to China and founded the Second Republic at Canton, where the Tuchuns' wars in north China gave additional prestige to the Kuomintang. In 1923 Dr Sun, having failed to get help from other European Powers, called in the aid of Russia, who sent him Borodin, as remarkable a political agent as has ever been

seen, and General Galens, afterwards better known as Marshal Blücher, builder of Russia's army in the Far East. Borodin quickly secured the incorporation of the Communist Party in the Kuomintang, he imparted organization, life and purpose to the whole movement and in the autumn of 1926 the Nationalist armies swept triumphantly to Hankow, where they proclaimed the Government of China, and thence all down the Yangtse.

Now, however, a breach occurred. Chiang Kai-shek never had the slightest taste for Communism and he hated Borodin. Then about 55 years old, Chiang had made soldiering his profession as a young man. He joined the Nationalists at an early age, fought in both the Revolutions of 1911 and 1913, and went into exile after the latter with Sun Yat-sen. When Sun founded his second republic at

Canton in 1922, he sent Chiang to Moscow for a year's military training; and on his return Chiang became head of the Whampoa Academy, where the Nationalist officers were trained, and eventually led the Nationalist armies on their march to Hankow in the autumn of 1926. Chiang was undoubtedly a most able soldier long before he developed those gifts of statesmanship which have made him world famous. Both Chiang Kai-shek and the moderate Nationalists were equally alarmed at the excesses and ascendancy of the Communists, and by the accidental discovery of Moscow's designs upon the whole of China. And with Chiang taking the lead, the Russians were expelled from China, the Hankow Government dissolved and the capital moved to Nanking. One year later (in 1928), Chiang in combination with the two great northern generals—Yen Hsi-shan, "Model Governor" of Shansi, and Feng Yu-hsiang, the so-called "Christian General"—marched upon Peking. Chang Tso-lin, last of the Presidents and most famous of the old war-lords, fled to his stronghold in Manchuria and was blown to death by bombs under his train, most probably laid by Japanese agents who did not like his strength in Manchuria.

By the middle of 1928, the last vestiges of power had passed from Peking and the Kuomintang proclaimed all China unified under their control.

Dr Sun had not lived to see the triumph of his party. He had died early in 1925 when visiting Peking, for what purpose has never clearly been explained though it is commonly reported that he hoped to arrange a compromise with Chang Tso-lin. Opinions vary widely as to his actual ability and even as to his usefulness to the Revolution. One thing is certain. Sun was a true patriot who gave himself unsparingly to the cause to which he had dedicated his life. It is worth notice too that although millions of money had passed through his hands he died a poor man, leaving no more than a modest house in Shanghai and perhaps a couple of thousand pounds. After his death he was virtually deified by the Kuomintang who built him a lovely tomb on Purple Mountain outside Nanking. As a symbol Sun Yat-sen is perhaps of more value to China dead than alive.

The Kuomintang now set to work to frame their new Government. There is no space to describe in detail this complicated instru-

ment, than which nothing could have appeared better designed to obscure counsel and obstruct action. Moreover the Kuomintang were, to put it mildly, not wise. Intoxicated with their triumph, they poured out paper reforms of little worth like a Niagara, but few of them were disposed to settle down to the drudgery of practical work on China's crying needs.

To General Chiang Kai-shek, one of whose great merits is to see the essential thing to be done and stick to it, such confusion and ineptitude were anathema and he repeatedly and sharply lectured the Kuomintang on their shortcomings and the growing detestation in which the public held them.

One of the worst obstructionists was the Cantonese Hu Han-min, a former secretary and lifelong intimate of Sun Yat-sen's. It is fair to say that Hu was an indomitable worker and of the highest integrity, but he was a man of narrow, peevish mind, bound in formalism and obstinate to every measure which did not conform to the strictest doctrine of Kuomintangism, of which he regarded himself as the sole exponent. Finally, Chiang lost patience and had Hu Han-min put under arrest in the spring of 1931. This caused a terrific shock and scandal, but it undoubtedly helped to clear the air, although it brought Nanking and Canton (whither Hu and his Cantonese sympathizers had been allowed to retire) to the verge of another civil war: there had already been two in 1929 and 1930, against recalcitrant generals in central and north China.

And then in September came a still greater shock when Japan fell upon Manchuria and proceeded to tear it from China.

It brought the politicians to their senses at last and started China on that path of reform and economic development which was the marvel of all beholders, and incidentally was one of the chief causes why Japan, fearful that China would grow too strong for her, invaded her in July 1937.

While the organization of the Government was overhauled and simplified, though without destroying its original form, a National Economic Council was set up which engaged a number of experts from the League of Nations to assist in agricultural, industrial and economic reform. Model factories were established, the cultivation of tea (always hitherto a somewhat haphazard affair) and of silk was





*Long Muir*

*The ancient Silk Road by which from the beginning of history China sent silk westwards into Asia and Europe. It leads out through north-west China to join up with the Russian railways in Turkestan and Siberia. It is China's second life-line after the Burma Road and quantities of munitions have travelled along it from Russia in the past four and a half years*

improved. Model farms were started and seeds introduced from abroad to improve native growths. Valuable work was done in respect of cotton, not only for the production of longer staples, but, to the joy of the manufacturers in Shanghai and Tientsin, to prevent the cotton sent to market from being watered and adulterated as had been the age-long habit of the guileless peasant.

A vast scheme of road-building was begun which in six years covered central and south China with a network of 30,000 miles of road. Along these motor buses trundled (crazily perhaps, but, in the Chinese way, getting there somehow) to bring light into many dusty

corners. The long-vacant gap of some 200 miles in the Canton-Hankow railway was triumphantly completed with the aid of the Boxer Indemnity money which Great Britain had returned to China, so that it literally became possible to travel the whole way by rail from Hongkong to Calais. Other railways were started to link Nanking and Hangchow transversely with western cities south of the Yangtse. And aeroplane services all over China accomplished in two days journeys which had formerly taken as many months.

Greatest of all the reforms, perhaps, were those accomplished by that able financier, Mr T. V. Soong, brother-in-law of General Chiang



*Pictorial Press*

Kai-shek. Under his management taxation was reformed and the most obnoxious taxes abolished. The old currency of the tael—a weight of silver, not a coin, which varied in every province—was replaced by a standard dollar, or yuan; and for the first time China was provided with an annual budget showing exactly what was received. Mr Soong also put through an agreement with the Powers whereby payment of interest on various railway and other loans, which had fallen into arrears during the civil war, was resumed and put on a sound basis, certain of the arrears at the same time being cancelled as a not unjust concession to China's former difficulties. In November 1935, owing to the outflow of silver due to its high value in America, China "went off" silver and introduced a managed currency with a dollar of the fixed value of about 1s. 2½d. Great Britain gave her considerable help in this innovation. So greatly were China's credit and prestige raised that when Dr H. H. Kung, the Premier (who had also succeeded "T. V." as Finance Minister),

came to London in 1937 for the coronation of King George, he had no difficulty in arranging the preliminaries of a loan of £20,000,000 for further economic development.

Meanwhile, in addition to the Government's activities, great social developments were taking place, chiefly the work of the student body, which, by the way, includes everyone who has ever been a student: the "old school tie" spirit is particularly strong in China.

In 1917, while still a student at Columbia University, Dr Hu Shih, the present Ambassador in Washington, had propounded the idea that there could be no progress in China while all the classics remained written in an extremely difficult and artificial language which it required years of study to master. This was the beginning of the great Literary Renaissance or *pei hua* reform, which has filled China with editions of the classics and of foreign books, written in the *pei hua*, the everyday language of the people, in which already there was a rich mass of songs, novels and all the best plays of China.





*Pictorial Press*

(Opposite) *In the renaissance of China before the War the Government did great work in improving the quality of Chinese cotton with which these lorries are laden*

*Since their emancipation, Chinese girls undertake jobs of all kinds, including the work of conductresses and women police. The left-hand picture shows the inside of one of the motor-buses which came with the Chinese Government's wonderful development of roads aggregating many thousands of miles. On the right a police woman inspects the passes, certificates and possessions of women passengers at the entrance to a walled city*



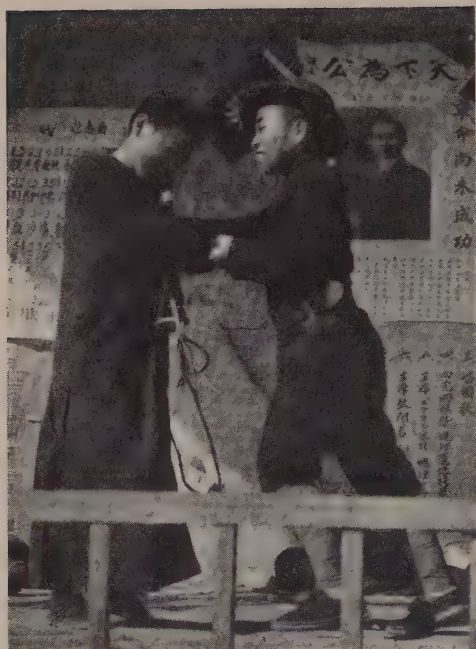
*Pictorial Press*

It was in 1917, too, that another Chinese student, James Yen of Yale, going to France to act as interpreter to the Chinese Labour Corps, hit on the idea of teaching the coolies 1000 essential characters (it is no doubt generally known that there is no Chinese alphabet; each word is a separate character, largely pictorial in origin), which he did with the aid of a magic lantern, taking classes of 500 men at a time. This 'mass education' movement which Yen carried to China, caught on like wildfire. The thousand characters were expanded to 1200, which are ample for all the needs of the average farmer, and within four years there were 5,000,000 pupils and over 100,000 teachers, most of them students giving their services free.

One change of extraordinary importance has been the emancipation of Chinese girls from the stuffy back regions of their homes in which they had existed for centuries. The Chinese have never practised purdah. The Emperor K'ang Hsi's great encyclopaedia contains the names of 28,000 women who

gained distinction by their virtue and accomplishments; and under both Han and T'ang dynasties women were admitted to public office. But in general, until the coming of the Republic, women held an altogether subordinate place, with neither freedom nor rights.

All that is now changed. Madame Chiang Kai-shek is but the most brilliant flower of a sisterhood which blossoms from one side of China to the other, and girls are found in every occupation from Government offices to nursing. No fewer than 40,000 girls have actually had military training and are fighting the Japanese, chiefly among the guerrillas. Schools for girls, scarcely known except for the missionaries' schools thirty years ago, are to be found in every province (or were before the war); it is significant of Japan's well-founded fear of the influence of the whole student movement that she has deliberately sought out and bombed to atoms Chinese schools and colleges; over 100 leading educational institutions in eastern and central China have



Toni Muir

been destroyed by Japanese aeroplanes), and nearly all the Chinese colleges, excellently reformed and reorganized by that great educationist Dr Ts'ai Yuan-p'ei, are co-educational.

On no class has Western education produced such happy results as on China's girls; and some of the best of the Kuomintang's legislation has been for their benefit, one law, for instance, giving them equal rights of divorce with their husbands, and another securing to them an equal share with their brothers in the family patrimony.

Tribute must fairly be paid to the efforts of the whole student body, men and girls together, in furthering the Literary Renaissance, in the mass education movement, in founding innumerable little clinics in country places, in striving to educate the peasants to better ideas of hygiene. Apart from material benefits, the psychological influence of such work can hardly be overrated. The solidarity of the

*Little plays, acted by students, rouse country folk to the issues of the war with Japan. Here (left) the Japanese soldier despoils the rich Chinese. (Below) Madame Chiang Kai-shek visits one of the hospitals she has reorganized*

Toni Muir





student body throughout China is well-nigh perfect and their activities have immensely conduced to the breaking-down of provincial barriers and the birth of a new sense of nationality. It is indeed doubtful whether the amazing unity which all classes of China are showing against Japan could have been achieved without the years of spade-work among the people by the students.

As one looks forward to China after the war one wonders what will be the outcome of the tremendous forces generated in the past ten years. China is still a purely one-party government, the Kuomintang are still the fount of all authority; and although since the war began a move towards popular government has been made by the creation of a National People's Council (which may be the germ of a future parliament), it does not appear yet to have given much satisfaction.

Undoubtedly the Communists will prove a powerful factor. They have long since modi-

fied the violent Bolshevism of fifteen years ago in accordance with Chinese tastes. They practise full religious toleration and recognize private ownership and property provided it does not mean landlordism; and their grand demand is for agrarian reform and the welfare of the peasantry. Their success in this respect wherever they hold sway is the foundation of their brilliant guerrilla work against the Japanese. While they and the Kuomintang are absolutely at one in resistance to Japan, there have been some nasty differences between them on internal matters.

China will have her own problems after the war like everyone else, and much will depend (in peace as in war) on the leadership of General Chiang. Ultimately, no doubt, she will evolve on her own lines a two-party government with right and left wings. The day may even come when the titles 'Kuomintang' and 'Communist' are as much things of the past as 'Tories' and 'Whigs' in England.

*Some of China's Communist leaders in counsel. From left to right: Wang Ming of the Central Committee of the Comintern; Chou En-lai, vice-president of the National Political Council; Lin Chi-han, formerly president of Soviet China; and Chin Po-ku, one of the most active political leaders of the party. Communism in China now takes a very mild form, and its chief demand is for agrarian reform and the welfare of the peasantry*

*Toni Muir*



# The English Village in War-Time

by EDITH OLIVIER

*Miss Olivier's association with the rural life of Wiltshire is a long and close one. Both as a countrywoman and as Mayor of the small township of Wilton she has qualifications which make her an ideal commentator on the texture of country life in peace and war*

SOMETIMES throughout the short summer nights a faint flicker of summer lightning trembles on the horizon from sunset till dawn. The storm is so far away that there seems to be no thunder. Then a distant roll is heard, and heavy clouds come swiftly up the sky. The country peace is shattered, and wicked zig-zags of forked lightning break from the lowering sky and come swiftly to earth, accompanied by a crash of thunder overhead. A tree is struck, and the cattle which had sheltered beneath it are stretched lifeless on the ground. Danger has suddenly become terribly near and real.

War reaches most English villages like remote summer lightning, playing on the horizon as a perpetual reminder of something just out of sight. Only seldom does it become immediate and inescapable.

I have a friend who volunteered for work on the land in the summer of 1940. During the Battle of Britain he worked on a Dorset farm, in the very middle of the Hardy country. The people there are well used to the word 'invasion', for they have heard it often in the last 1200 years: the rocky coast off the Isle of Purbeck saw the wrecks of many a Danish ship in the 8th century; in Queen Elizabeth's

*Young visitors from the town enjoy the roar and the dust and the swirl of the air when the threshing is in full swing*







day, wave after wave of Spanish enemies were vanquished by the seamen and the storms between Devon and the Isle of Wight; 50,000 French troops collected in the French Channel ports in the summer of 1756, and dared not put to sea; while every reader of Hardy's *Dynasts* remembers the lighting of the Beacon on 'Egdon Heath' when the men of Dorset were waiting for Napoleon to come.

But modern warfare can bring the enemy overhead without any preliminary invasion, and the Wessex villages must now face a new peril. The threshing team with which my friend was working went one day to its usual stand on those high downs where Maiden Castle dominates the sky-line to the north, and Portland Bill guards the sea to the south. Except for these landmarks, the horizon is as round as the Universe, and almost as vast. The men went to their posts with the deliberate steps of the countryman, who always appears to have an eternity of time before him in which to carry through his work. 'Henry' brought his cart alongside the machine, and forked up the sheaves to 'Bill' who fed them into the thresher. From its inside rose a column of dust, pollen and dirt which completely blinded the boy whose place was by the elevator. He stood with his hands over his eyes, crying. My friend received the sheaves and made the rick, Giles all the time weighing the sacks at the back of the machine.

Once the men had started the engine, everyone was swallowed up in the roar and the dust and the swirl of the air. Each man was absorbed in his own part of the job and no one at first noticed that a deeper and more universal roar was added to the original noise. Then this new roar heightened into crashes, like violent claps of thunder; and from above came flashes of light, in their turn becoming ardent flames, all but eclipsing the controlled noonday sun of an English summer.

Then the men looked skywards, and the threshing stopped. Overhead a terrific air battle was raging. Fifty German bombers made a solid block, and into the midst of this formation dashed a squadron of English fighters. The planes zoomed, twisted and swirled together in what looked like complete confusion; the battle soared higher and higher till the planes looked like silver fish. Then bullets began to spatter the stubble all round,

and three burning planes fell at an incredible speed to the ground, whence their flames mounted back to the height from which they had fallen.

The threshing team was stationary in the midst of this conflagration, the men rubbing straws from their eyes.

It might have been a scene from the *Inferno*, except that the primeval curves of the far-away horizon retained their unbroken stillness and peace. Even an air battle could not reach these. And when it was over, the men started up the thresher, and work went on all the afternoon.

Such is the normal reaction of village people to war. It is an interruption, often a terrible one; but it must fall into its place in Time's eternal round, where the occupation of farm workers is unending.

#### THE NEW ENRICHES THE OLD

In most south country villages you seem, decade after decade, to meet the same faces. The return of a native who has been away for a generation, generally means a succession of recognitions. "Well, to be sure, you'm Bill's boy, bain't 'ee?" or "Why, man, I can mind your Vather afore you were barn." Hitherto, local types have persisted: generation after generation, families have inherited the old familiar friendships. Now, strangers are accepted as part of the war.

Last winter I found two young strangers driving a motor plough on the farm in which I live. One was a striking-looking man with dark eyes and hair, who, on a first hearing, seemed to speak the dialect with the deliberate accent of the natives. I found that, till a few months before, he had heard no language but Jersey French, which he spoke slowly, like all countrymen, with the limited vocabulary common to those who live close to the soil. Thus the Wessex vernacular came easily to him. His companion was a girl whose face might have belonged to one from the Forest of Arden; it was surprising to learn that she was a Londoner. These two people lodged with farm workers and adapted themselves to the village mould as though born to it. Land workers from other parts are not 'outsiders' in villages, for they speak a common language, even if they happen to have used hitherto a different, even a French idiom. New blood such as this, naturally absorbed into a village,





*Cecil Beaton*

*A land-girl from London who adapts herself to the village mould as though born to it. Such 'strangers' are soon accepted in the villages as part of the war and naturally absorbed into the life of the community—an arrangement which is mutually beneficial*



Fox-Photos



J. H. Cookson

*Two little visitors evacuated from the town get a kindly greeting from their country foster-mother. These visiting children soon become real country children, feeding the cows and pigs and driving the donkey cart which takes the milk to market: in fact, working and playing side by side with the children who belong to the place*

will enrich the local breed and make a better blend in future.

#### A HARDER PROBLEM

There are other visitors whom it is less easy to absorb. In the so-called 'Reception' areas, the population of villages has grown enormously, and all the new-comers are not equally congenial. It is one thing to make friends with half a dozen people who have come to lend a hand with the depleted farm staffs, and who are busy all day on the same work as their hosts. It is quite another when the village has to receive fifty or a hundred evacuees from a town in a danger zone. They may, or may not, have been bombed out; if they have, their nerves have been shaken and they are not at their easiest. They generally arrive in numbers beyond the village capacity. The women have no occupation: they find the villages dull, and, on dark nights, alarming. They often have to use their hostess's kitchen range, which is a difficult partnership to work without friction; but necessary, as the houses are too small for separate establishments. The village women welcome them with great

courtesy when they arrive, but the strain is great on both sides, and often no one can be blamed if the townswomen go back to their (perhaps battered) homes. The village branch of the Women's Institutes tries to give some sort of social life to these visitors, and a club is sometimes started to fill up their spare time; but they generally remain on the outskirts of the village life, and find those outskirts rather bleak.

#### CONTENT TO BE COUNTRYMEN

It is quite another thing with the school children. They are distributed among foster-parents in the cottages, and at once become completely at home. But then their days are fully occupied, and one thing which this forced migration has proved is that those who work side by side soon learn to live side by side. The visiting children go to school with the children of the place, and they are all busy together. One of the most charming scenes now to be met with in many a village, is a little group of children being led to school either by their new 'uncles' and 'aunts' or by the other children. Their 'masgasks' (as my





*Fox Photos*



Val Doone

*The village branches of the Women's Institute do all that is possible to give some sort of social life to town mothers who find country life bleak. Above is one of their produce stalls which helps out the depleted shelves of the village shop. The bar of the village inn, seen below, is busier than ever in war-time; for in addition to the usual customers there are now many passing lorry drivers, soldiers and munition workers*



Cecil Beaton

visiting two-year-old says) are slung across their shoulders: their cheeks are growing fat: their faces are ruddy. They soon become real country children; and the big boys drive in the cows and the pigs at night and declare they will never go back to live in a town.

Sometimes the little evacuees find that even a village is not always safe, though a raid there is not so horrible as it is in a town. I know of a tiny hamlet on the high downs behind the cliffs near Plymouth. It contained about twenty labourers' cottages, and the other buildings were only cowsheds and pigsties. About twenty children from the nearest great town had been sent there for shelter. Then one night the Germans came, and not one house was spared. Roofs, walls, win-



dows and doors fell in upon the sleeping occupants; and yet, strangely enough, not one person was killed. Injured, yes: almost everyone; but that was all. They dug out a small visitor of four years old upon whom the bedroom wall had fallen. Fortunately with it fell the cupboard, and the cupboard door came open as it fell. It enveloped the little boy on his bed like an extinguisher. They found him still comfortably asleep, quite undisturbed by the pandemonium around.

It is the natural thing in a village to have a school feast on the least provocation, and the wife of the squire decided that a raid was indeed the opportunity. The bombed-out children had a wonderful afternoon, and the little boy from under the cupboard said to his hostess: "We had a big thunderstorm up there last night. I'm glad it wasn't going on here this afternoon."

#### SHARING THE WORK

It is not easy to keep the shelves in the village shop so well filled as in peace-time, and ration cards are a sore tax on the arithmetic of the shopkeeper. Hitherto she has kept very few accounts, but now she says they keep her up half the night, and even then she gets them wrong. But all the usual activities are carried on with difficulty. The inn is busier than ever, with passing lorry drivers, soldiers, and munition workers: and the inn-keeper's wife and sister-in-law must carry on with one old factotum to help with the heavy work. Half a mile from my house, the huntsman is resolved to save a small and carefully selected remnant of the pedigree pack of which he has always been so proud. The whips and kennel men went off at once, and there will be no more hunting while the war lasts; but his daughter helped him till she joined the forces last year, and now he only has his one helper of the last war,—his wife. The squire's family have gone into the dairy, and have added goats to the stock. Their goat's-milk cheeses are not to everybody's taste, but, all agree, better than nothing. This shortage of the usual staffs brings everyone together. People used to take their neighbour's work for granted: now they share it, and it is far more fun.

#### WATCHERS BY NIGHT

The congregation in church on Sunday mornings is smaller, though as many women

as possible gather to pray for their absent sons and husbands, and to hear their names spoken one by one in the Intercession. But there are very few men present, for those who are left behind have extra work to do, and there is often a Home Guard exercise to command their presence. And every night, as Cecil Day Lewis says in one of his *Poems in War-time*,

All over the countryside  
Moon-dazzled men are peering out for invaders.

These night watches are the most serene and beautiful vigils. Here and there "a farmer and a poet are keeping watch" and if they "talk for a while of invaders", soon they

Turn to crops, the annual hope,  
Making of cider, prizes for ewes.

Up on Martensell, which looks like a lion *couchant* on the summit of the Marlborough downs, the sapphire and amethyst flame of Venus almost outblazes the moon's calm silver flood, and the three watchers come out of their hut, to lie in the open all night watching the firmament. The gentle burble of conversation never ceases. Each night sound rouses sleepy discussion. "Was that a fox's bark? or a vixen's? . . . The scream that followed the owl's swoop surely came from some unfamiliar little animal? . . . Farmer Head's cow do make a ter'ble moan because she've a lost her calf."

Or there's an argument as to the record store of nuts collected by a squirrel. One man says seven pounds. Another laughs and says one and a half. Someone looks towards Farmer Head's new field of flax,—a patch of delicate blue mist in the moonlight. Each man has his opinion about the new crop. The old man says flax "burns the ground". "Not if you put in plenty of potash," replies the young one; "and you'll see that flax upsets the ground less than any other crop. The machine'll clear it all away." "If so be as it don't break down," answers the old man with an old man's laugh. But the young man sticks to his point: "Then you can always clear it by hand, and that there field'll bring in £600 if it do bring a penny".

These moonlit nights produce strange optical illusions. A large and hitherto unknown pond appeared some distance away. The guard moved cautiously in its direction, to stumble, a few paces off, into their own small

circular direction disk, lying greatly magnified in the confusing mist.

Still more astonishing was what seemed to be the distant descent of an army of parachutists. Secretly and discreetly the whole guard moved off in the direction of the enemy. Came a cry, "Ere he is!" and the party was surrounded by hundreds of spiders descending in their webs, shaped like parachutes, and appearing in the haze to be, not tiny forms near the eye, but distant human figures.

Another time a torch was seen being carried slowly through the long grass towards the post. The Captain advanced with fixed bayonet to meet the stranger, but soon returned alone. He had charged a glow-worm.

Dawn begins, and the party comes back down the hill. The Commandant asked one of the party what his name was. "Sturmy," came the answer. This family had owned

the land for many miles round until the 14th century, when it was merged in the families of the local duke and marquis; but the old race had lived on, still to play its part in defending the old acres against invaders. As they come back into the village, a regular soldier on leave meets them. He looks at them quizzically. "Done anything up there?" he asks. Perhaps not: but, to quote again from Cecil Day Lewis's poems, we

Came out to guard the star-lit village—my men  
who wear  
Unwitting the season's beauty, the received truth  
of the spade—  
Roadmen, farm labourers, masons, turned to another trade.

The harvest moon is waxing, and high tides threaten harm,  
Since last night may be the last night all thirty men go home.



Cecil Beaton

*The congregation in church on Sunday mornings is smaller, though women gather to pray for their absent sons and husbands, and to hear their names spoken one by one in the Intercession*



# Walt Whitman and the Poetry of Geography

by BASIL DE SELINCOURT

*In an article on 'Tennyson's England' published in our July issue last year, Mr Charles Tennyson discussed the extent to which poets have been influenced by their natural surroundings. Pursuing the same theme, Mr de Selincourt shows how the great American poet of democracy was inspired by his vision of a continent, every corner of which should be the background for that new life of comradeship and freedom on which we all now fasten our hopes*



To get all geography can give, one must, I am sure, combine two aspects, the delight of feeling the riveriness of rivers and the hilliness of hills, and, on the way to that, the satisfaction of knowing how many rivers and hills there are and where they are, how long, how high and all the rest. Now the interest of Walt Whitman to geographers is not only that he cared very much about geography but that he cared about it exactly in that double way:

O lands! all so dear to me—what you are,  
(whatever it is,) I putting it at random  
in these songs, become a part of that,  
whatever it is. . . .

That is inclusive, anyhow. There is good reason to call Whitman the geographer's poet, *par excellence*.

In general, when we know where a poet was born, where he spent his childhood, and where he wrote his principal works, we have exhausted his connection with geography; and unless we are careful we may exaggerate the connection, because of that tendency in poets to 'universalize' their surroundings, to treat them as symbolical. Shelley and Browning, for example, are not less English for having spent so many years in Italy. Shelley, in a way, would always have been un-English, even if he had always lived in England; he is more like some wild bird or spirit of the mountains. Browning was a

lowlander, a Londoner; the heart of England, with its kinks, its stubbornness, its warmth, went with him everywhere. It is true, of course, that because poets live intensely, they leave something of themselves in places where they live. We even 'preserve' places sometimes for the poets' sakes who loved them: like Gray's church-yard in his Thames-side village of Stoke Poges. But, there again, the triumph of his *Elegy* is that what it finds in one country churchyard is true of all, so that each one of us can take it to heart in the village he loves best. The greatest poetry always has this 'universality'. It may, indeed, be intensely local; but then its concentration of vision is like light in the burning-glass and the fire it kindles warms the world.

Whitman's poetry was the work of his mature manhood, and before he began to write it, he had thought these things out. He wanted his poetry to be as original as America, and, as part of that, he had an original attitude to geography. He wanted his readers to understand that the centre of poetry, as of everything else, was within them; each must find and feel it for himself; each must be in his own heart a poet if he was to understand the poetry of others. Here comes Walt Whitman then, America's poet: the point is not, "where was he born? where did he find poetry? let's go and see the places and find it too"; the point is, "as he was born



All photographs from E.N.A.

*An old-time Hudson River Ferry Boat. "You that shall cross from shore to shore years hence are more to me, and more in my meditations, than you might suppose"*

in one place, so I was born in another, and the poetry he found in his surroundings, I can find in mine. There's a way of looking and thinking that is the way of poetry and is good everywhere."

If you come to think of it, the main interest of geography itself hangs on this very idea that Whitman wanted to bring into the spotlight. The interest of places is that they are centres of interest to other people. Archangel or Kamschatka or the Galapagos Islands are home to those who live there. If we want to appreciate their point of view, put ourselves in their shoes and feel what home means to them, the condition is to be alive in our own shoes, alert in our own home first.

So Whitman's plan was to detach himself, so far as was humanly possible, from any place which might come to be called his, and identify himself, all he could, with places other people called theirs, beginning naturally with America. I am, he tells us,

A Southerner soon as a Northerner, a planter nonchalant and hospitable down by the Oconee I live,

A Kentuckian walking the vale of the Elkhorn in my deer-skin leggings, a Louisianian or Georgian,

At home on the hills of Vermont, or in the woods of Maine or on the Texan ranch. . . .

"Never mind where the poet lives" is his notion: "poetry is where *you* live. You don't need to go and find the poet. He has to come to your home and find you." It was chiefly for this reason that he never cared to

marry; for marriage is a 'tie', a permanent association with a settled home. However, he could not choose his birth-place, and he was lucky in it. His parents' home (he was half English, half Dutch) was in the middle of a small island, which meant that he had country sounds and sights all round him and the sea very near.

The sea: perhaps it was the most important of all the influences in his life, the sea which divides and unites the continents and makes the whole world one. But he not only had sea to right and left; his small island (small by American ideas) lay at the mouth of a great river, where also America's greatest city had been built: Manhattan or Mannahatta, he often called it, in memory of the Indians, and the island Paumanoc: "fish-shape Paumanok where I was born": we call them now Long Island and New York.

New York, even in Whitman's day, spilled over onto one corner of Long Island, and ferry-boats ran continually to and fro. Be sure to read *Crossing Brooklyn Ferry*, one of his most mysterious, most glorious poems. These ferry-boats were his great delight.

It was the changing streams of people that drew him to them and the link they made between land and water, town and country. But all boats were home to him, for he loved mozing around, loafing, letting time float by in any kind of companionship. Nothing beats a boat for that. Another characteristic pleasure was to take bus rides, horse-bus rides, of course, up and down the





*A freight train: "Fierce-throated beauty! Roll through my chant with all thy lawless music,—type of the modern, emblem of motion and power, pulse of the continent"*

great main avenues of the city. If London bus-drivers were characters for Dickens, New York bus-drivers for Whitman were like Homer's heroes, and they were all his personal friends.

Generally speaking, he is always most himself when he is on the move. When as a young man he tried school teaching, he travelled from place to place and took payment by lodging a night or two in all his scholars' homes; he says it was the best lesson in human nature he ever had. When for a time he ran a news-sheet in Long Island, he delivered copies himself. He would compose his poems to the sound of the waves, as he tramped the Long Island beaches, and when his book was ready, he was his own publisher and printer. As long as life was in him, he was a rolling stone, ready for any jaunt. Often he would help his father, a builder-carpenter, to set up some of those gay, capacious wooden-houses, in which most Americans in town and country live to this day—so neat they look in their white paint, green lawns all round them and high overarching elms, with light cascading branches, to give protection and shade.

Whitman is a traveller, then, a traveller in the service of a great idea; a traveller because we are all travellers: not pilgrims, exactly (there is a flavour of penitence in Bunyan's word): travellers towards a better future, travellers in a world of promise, a world which is ours when we find how to make it so:

Afoot and light-hearted I take to the open road,  
Healthy, free, the world before me . . .  
Going where I list, my own master total and  
absolute,  
I inhale great draughts of space,  
The east and the west are mine, and the north  
and the south are mine.

Such was the pulse of life in America when Whitman was a young man. The United States was a nation of pioneers. The boundaries of their great territory were not yet drawn, but every citizen knew what they would be, knew how vast was his inheritance, knew that it was for him and his children to possess themselves of its riches. So there was poetry in the least thing they did, since each was symbolical of greater things soon to be done in the America of the future. Also in many minds, and always in Whitman's, adventurous conquest of the soil was symbol of another conquest which every human soul must make, the spirit's conquest of the world: in his own words

America, because you build for mankind, I  
build for you.

For to be a true democrat, a true American, was, he saw, to be a world-citizen. The spirit in which the American people had accepted their inheritance could only at last be satisfied by equal partnership with men and women everywhere. There is a hunger in democracy for universal brotherhood.

The idea runs all through Whitman's work. But two poems specially devoted to it have also a special interest for geographers. *Our*



*A New England landscape in the Appalachians such as Whitman may well have been thinking of when he wrote:*

*"Afoot and light-hearted I take to the open road,  
Healthy, free, the world before me,  
The long brown path before me leading wherever I choose"*

*old Feuillage*, our old Leafage (French is used in compliment to the many French Americans of the South) is an imaginary ramble over all the States of the Union. Walt puts on his wishing-cap, and in strange panorama a string of dissolving views comes floating before his eyes; he wants to show how his Americans are leading the American, the democratic life, here, there, and everywhere: all the circumstances so richly, so differently inviting, but the spirit the same:

Encircling all, vast-darting up and wide, the  
American Soul, with equal hemispheres,  
one Love, one Dilation or Pride.

He sees the men; he sees the landscapes and

animals too; for what is the life of man without that infinite background of the life of Nature, which has nurtured him and slowly brought him up to be what now he is? So he tells us of

Interior rivers by night in the glare of pine  
knots, steamboats wooding up,  
and

Afar on arctic ice the she-walrus lying drowsily  
while her cubs play around,  
and

The scout riding on horse-back over the plains  
west of the Mississippi, he ascends a knoll  
and sweeps his eyes around.

It sounds simple as you read it line by line,



and many people laugh and call it a catalogue. But a strange deep thought is stirring underneath: a sense of the sympathy, which makes people project their thought afar and seek to understand what change of climate and situation really means. Isn't that the ideal of a geographer? wherever a man can live, he would live in thought beside him. In fact, Whitman is giving Americans a short-hand picture of their geographic unity, stirring them with the romance of its size and splendour.

In *Salut au Monde*, Salute to the World, he goes further. We saw that he was helped to world-consciousness by being born an islander; also, in the years that formed him, the world was newly in men's eyes. Ocean-going steamers then were what the great passenger-planes are now—portents, comets in the sky:

Nor forget I to sing of the wonder, the ship as  
 she swam up my bay,  
 Well-shaped and stately, the Great Eastern swam  
 up my bay, she was 600 feet long.

To Whitman it was a meteor in a year of meteors when that happened. The railway train itself was a novelty; but the American locomotive was already, what it still is, a wild, gigantic prairie-beast; don't miss his poem to the "fierce-throated beauty"; I wish I could quote it here. The telegraph had arrived. All the great inventions by which science has telescoped the old distances and separations were throbbing in the air; and this brought Whitman a kind of ecstasy and joyous madness. For it meant that the brotherhood he believed in need not be an idea any longer, but was ready to be translated into life and fact:

The sign is reversing, the orb is enclosed,  
 The ring is circled, the journey is done,  
 The box-lid is but perceptibly open'd, nevertheless the perfume pours copiously out of the whole box.

So in America's, in democracy's name, he writes his 'Salutation to the World' and puts on his wishing-cap again with larger purposes:

Within me latitude widens, longitude lengthens,  
 Curiously north and south turn the axis-ends,  
 Stretch'd in due time within me the midnight  
 sun just rises above the horizon and sets  
 again. . . .

Quick as Ariel, he darts from place to place, to tell us what is going forward near and far, what is happening and has happened in earth's remotest corners and the dark backward of time:

I see ranks, colors, barbarisms, civilizations, I go  
 among them, I mix indiscriminately,  
 And I salute all the inhabitants of the earth.

I think it is Whitman's greatest achievement as a poet to have cared as he did for two things which seem at first to have nothing to do with one another, and which, by so caring, he brought together and shows to be really one: I mean, on one side, personal independence, liberty in its largest sense, and this world-citizenship, on the other. A man, he saw, cannot claim independence unless, in the same breath, he grants it to his fellow-men. So liberty, detachment, at once assumes the ties and feels the claims of comradeship. If truth is something that each man sees singly for himself (as the light for each one of us shines only through our own eyes), how urgent is the need of general enlightenment! We can only help so far as we see truth. Ignorance is always paid for; and we suffer for others' ignorance as much as for our own.

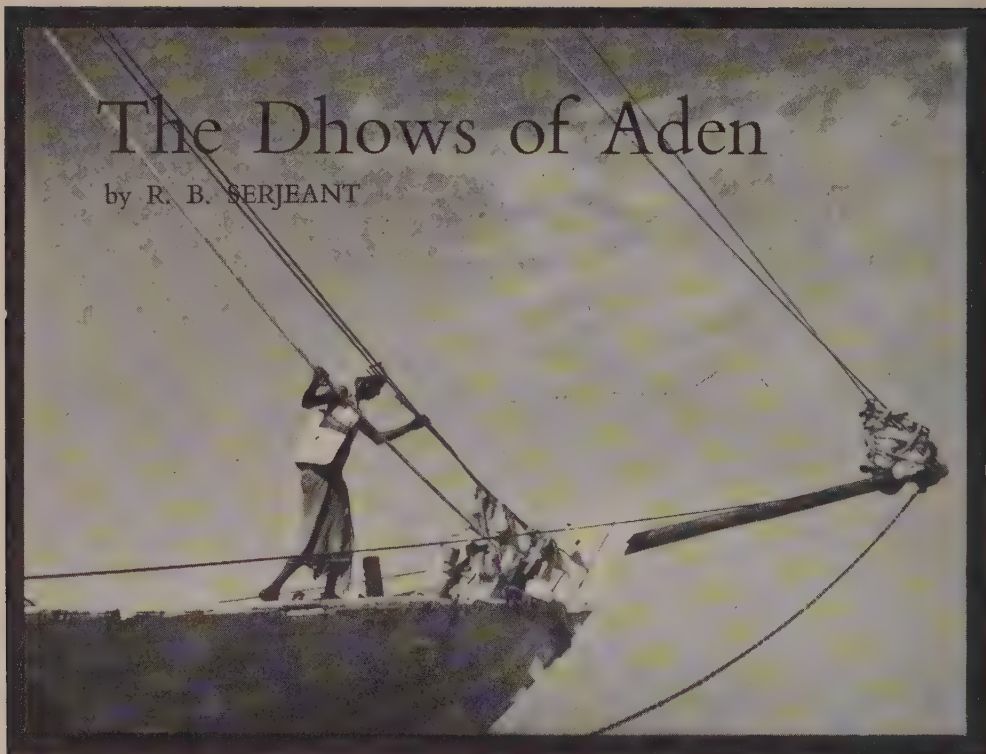
But Whitman did not argue about these things; he had them at heart, and they are the well-spring of his poetry:

My spirit has pass'd in compassion and determination around the whole earth,  
 I have look'd for equals and lovers and found  
 them ready for me in all lands. . . .

Notice that word *determination*: vague feelings are no good. Your love must find its way and learn what life means everywhere. What an idea for geographers! And isn't it exactly the idea we are all now fighting for, the idea of a freedom and a justice which shall have no frontiers, a humanity round as the world?

# The Dhows of Aden

by R. B. SERJEANT



Paul Popper

*Dr Serjeant spent 1940 and part of 1941 in the Protectorate of Aden on behalf of the School of Oriental and African Studies, where he is Lecturer on South Arabian dialects. During the Italian occupation of British Somaliland he lived among the tribes on the south-west coast of the Protectorate. He will follow this article with a second one on the mountain tribes of the Yemen*

THE dhow-yards of Aden are reputed by legend to go back to the days of the Queen of Sheba, about the 9th century B.C., and indeed it is true that coastwise shipping has frequented the port from remote ages. In ancient times trade was not only carried on with the near-by Red Sea ports, but with the Persian Gulf, India and indirectly even with China, while in the west the rich products of the East African coast were sought out as well as the fine manufactures of Egypt.

South Arabia, a high mountainous country with a short strip of coastal desert, is not only very fertile, but a source of semi-precious stones such as the cornelian, garnet and amethyst, and, it is said, gold. It was renowned for its textiles and incense, and in antiquity it had workers in the precious metals, iron, and glass. Quite near Aden the

remains of glass-kilns can be seen on mounds where once cities stood. Glass bangles from these factories have been found on the borders of India, in the province called Makran.

Inside this wealthy country communications were highly developed; roads worn for centuries in the sand and rock of the mountains run from Aden to the Yemenite cities of San'a and Ta'izz in the north and west. In the east one follows the ancient ways to Shuqra, up the mountains to Lodar, Am'adiyah, Beihaan Shabwa (Sheba?). Communications in Arabia, though less perilous than might be supposed, are expensive, for each tribe nowadays levies a toll on every camel-load of merchandise. In return a safe-conduct and an escort are given. Should the merchant suffer loss by robbery, etc., the chief has to make it good. Even a Christian



can travel in most places if he observes these rules, and so it must have been in antiquity.

There were and still are many famous ports of call on the Arabian coast, Mocha, Aden, Shihr, Mukalla. Ancient Himyaritic inscriptions have been found on Perim at the entrance of the Red Sea. Aden must have been a great exporting port as well as an entrepôt for foreign merchandise from the Indies to the Hellenic world.

One cannot but believe that dhows were fashioned at the seaport of Aden in early times. The chief doubt is where did the inhabitants find the wood to construct ships, as apart from the dug-out canoes which the fishermen use? At the present time a kind of bastard teak is used which is imported from the Malabar Coast of India, and Bombay. It is just possible that the first ships built in Aden were fashioned out of local wood—the 'ilb tree from which bowls are made nowadays. This timber would have to be brought from the mountains by camel, several days' journey away. It may have come from the African coast; but, be that as it may, in the Arab period one reads of ships from Aden travelling long distances on trading ventures.

The method of manufacture of these dhows is an excellent example of ingenuity with poor materials and few tools. First, the ribs of the ship are set up; these are branches of trees, large thorn-bushes which grow to about the height of a full-grown hawthorn tree. They are selected for their form, and then further bent and cut or pieces added, until they are a suitable shape for setting the strakes. These thorn-bushes grow on the Arabian coast and are brought in by coasting dhows, so this most essential part of the structure is at least native. The ribs are joined to the keel at the foot, and the tops are connected by a cross-beam.

The nails are of iron, manufactured, along with all the other iron-work on the dhows, in the port of Mukalla. The smithy is of a primitive type, the heat being provided by charcoal. A shallow hollow scooped in the sand holds the hot coals, the smith sits cross-legged working at the metal held with a pair of pincers, while a boy works the small bellows that keep the charcoal at the highest pitch of heat. The smithy itself is merely a hut of boards and straw matting to keep off the fierce heat of the sun refracted from the volcanic rock of Aden.

Some planks are laid along the inside,

after the initial stages. The planks for the strakes are sawn by hand—a laborious process, but then a coolie in Aden is paid only twenty-two rupees a month or thirty-three shillings, though skilled labourers, such as carpenters, naturally earn sums two or three times larger. The ships are supported on stocks, except the smaller ones, and the labourers can be seen chipping away at the planks beneath the sides of the dhow itself. The wood-work has to be covered by roofs of matting, which prevent warping in the sun and afford some protection to the workers.

These dhows are clinker-built, the interstices between the planks being filled with rope and tar. On completion, the whole is then covered with gypsum from Mukalla or Shihr, ground here in a camel-worked press, and mixed with oil—to make the ship glide smoothly through the water, as they tell me. The hull is then white up to the water-line, but all above that, and the ornamental carving of the stern, is picked out in the gayest light blues and greens. A central mast is mounted and the deck partially planked over. Some vessels are as much as two hundred tons burthen.

Sails too are made in Ma'alla (the seafaring quarter of Aden); you can see them spread on the ground while the sailworkers crouch to patch and sew the ropes on to them. The dhow at sea has the lovely bird-like appearance of all sailing vessels and it can move along surprisingly swiftly despite the clumsy arrangement for changing sail. In another part of the yard or foreshore, hawsers, and fenders of open-worked rope, are manufactured, all in the open air, but beneath awnings. The hemp, I suppose, comes from abroad, but the sisal plant does grow in south Arabia and I have seen Arabs pick it to make



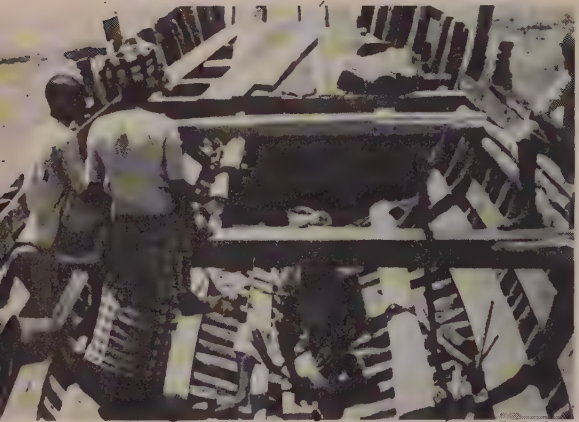
Stanford, London



*R. B. Serjeant*



*R. B. Serjeant*



*R. B. Serjeant*



*R. B. Serjeant*



*R. B. Serjeant*



*R. B. Serjeant*

*The two top pictures show how the keel of a dhow is laid and some of the ribs set in position. The second two show the inside of another dhow with a carpenter at work on the keel, and two men working a hand-saw to cut planks. In the two at the bottom the finishing touches are being put to the stern of a dhow, which is being smoothed. The fretted carving of the sides, a distinctive feature of these dhows, can be clearly seen.*





*R. B. Serjeant*



*R. B. Serjeant*



*R. B. Serjeant*



*Paul Popper*



*R. B. Serjeant*



*Paul Popper*

*Top row: a half-built dhow covered by an awning with workmen busy in the shade, and a view of the dhow yard at Aden. Second row: the fine contour of the dhow's sides. Below: Somali children, dhow-sailors of the future, and a portrait of the finished dhow*



Paul Popper

*Danakil sailors from the Somali coast hoisting the triangular sail of a Red Sea dhow*

ropes, so they are not unaware of its properties. A small thin rope or cord is made of grass or rush, called 'atir.

Ma'alla, the busy shipbuilding centre, is all confusion. Along the shore is the native village, peopled mostly by Somalis who form the majority of sailors in the coastal trade, though not the only race to do so. In the narrow streets are to be found stores, ships' chandlers, godowns, etc., while goats, children, water-sellers, coolies and sometimes wondering inland tribesmen wearing only the short kilt and the indigo dye smeared over their bodies, jostle one another in the narrow streets. Every imaginable kind of wastage lies about, old boxes, barrels, rusty petrol-cans, sheets of corrugated iron, worn ropes and sacking, side by side with stacks of seasoning timber and imported firewood and charcoal. Though less dirty than many a Syrian village I

have seen, the place is not clean. In and about the sidestreets and yards (which are washed by the sea certainly) the Arabs satisfy the needs of nature with too great a frankness.

The foreshore where the dhow-yard lies, is not, they tell me, owned by any particular person, but the ships are built by a number of families, each independent of the others. The dhows under construction are of all shapes and sizes, and seem to be commissioned by individual buyers, or groups of buyers. Some of the builders are said to be Hadhramis from the Eastern Protectorate, a province whence many Arabs have migrated far and wide to amass fortunes and, eventually,

return to their native country, which they never forget. Large numbers of them are settled in the East Indies, in Java, Singapore and Sumatra.

Further along the shore towards Steamer Point is the saint of the dhow-makers or the sailors. Every trade in Aden has its own particular saint (*Wali*), and these are no exception. Even the motor-car drivers are said to have a Wali of their own! The Wali's standard flutters in the breeze at the praying-place, which is merely a low white-plastered wall round a smooth concreted floor, with a niche pointing towards Mecca. It is customary to wear a little rag from the shrine of such a saint attached to some part of one's person, and this is believed to be a great safeguard against the very real dangers of the Red Sea and the Indian Ocean. An Arab told me that a certain man went on the pilgrimage



to Mecca, for they go by sea to Jiddah and then overland to the holy city, and on his way there he was wrecked. He cried to the saint for help, and a fish came and supported him until he was picked up by another vessel.

I have often talked to fishermen along the coast where they come to catch the tiny *wuzif* fish when it shoals, and the shark, the fins of which are exported to China as a luxury. Shark-flesh is cut up and washed in the seawater, salted, and carried inland by camel to be sold in the markets of Lahej and other towns. Upon one occasion I was travelling along the coast by camel and we were accompanied by a fisherman engaged in this trade. In the dark moonless night I could always tell where he was by the foul, rank odour of the lumps of shark-meat on his camel. Pliny and Strabo mention the fish-eating coastal tribes. Perim, Ras al 'Ara and Khor al 'Umeira are three dhow ports along the Red Sea coast to Aden.

Kawr is a lagoon enclosed by a sandspit, a place where pearls are found, and where perfume is made by smashing cockle-shells with two stones, and extracting a substance that for all the world resembles a dirty black Arab finger-nail, from which it is called *Dhufri* (finger-nail)! Sponges too are found near here, and flocks of pelicans fly past along the shore, or fish in the waterpools.

The Somalis are intrepid mariners, capable of great endurance, though they are reckoned fickle and untrustworthy. Most of the time they live on their dhows, and their food, rice, dates, tea and meat (when they can get it) are cooked in the ship itself. On one of the dhows I saw manned by Danakils from the French Somali coast, there was a kind of square trough with an iron brazier inside it. A small dug-out canoe with paddles formed of a flat circle of wood attached to a pole is used to get from a vessel of deeper draught and the shore. In a rough sea the dug-outs are easily capsizable and only an experienced person can manage them without an upset.

In the slaving days the coastal dhows were always suspect, but they were gradually brought under the control of the various great powers with colonies on the Red Sea littoral. Some registered with the British, and some with the French at Djibouti, and others with the Italians. Under the French flag they

used to smuggle rifles into the Protectorate, landing them at Ras al 'Ara, though of course officially the French did not recognize this trade. To this day every Subaihi on the western coast has his *Franzawi* (French) rifle dating back to that time. A certain amount of slave-trading is said to go on still from parts of Abyssinia, but it is very hard to stop because the slaves themselves are willing to conceal the fact that they are slaves; for they are quite happy at the prospect of a way of life where they will be maintained with regular supplies of food and clothing which in their free state would not be easy to obtain.

Of recent years some dhows owned by an Aden firm have been fitted with motors to ply between Aden and Mukalla. In this war also the dhow has played its minor part. Italian agents in the independent Arab state of The Yemen would buy up corn, kerosene and other stores there, and smuggle them in hired dhows across the Red Sea to Assab and Massawa. Though they were frequently intercepted by the vigilance of the Royal Navy, yet the Red Sea is so full of hidden reefs, shallows, currents and all manner of quirks that some did occasionally succeed in reaching the other side. I once saw one of four such dhows that had been captured or sunk in an attempt at smuggling corn to Eritrea; this one had become a prize of the Navy.

The smuggling of course between Arabia and the African coast also went the other way, for I have heard stories from Arabs of daring Free French attempting to escape from Djibouti by bribing a dhow-master to take them to Aden; but they were frustrated by the Vichy controllers of French Somaliland. There was a constant trickle of refugees from British Somaliland, then in Italian hands, and once or twice there came deserters from the Italian native armies. A few Abyssinians came this way, eventually to join the Patriot Army; some had been Government officials before the Italians came, and spoke French and Arabic besides their own language.

The dhow is the ideal vessel for these secret night movements, silent, swift and of shallow draught. So whatever the future has in store for south Arabia and the African coast opposite it, I do not think these native vessels are ever likely to be altogether displaced.

# The International Date Line

by F. S. LEIGH-BROWNE

ALMOST a century after Magellan, a Dutch expedition sailed round the world, as he had done, from east to west. It returned to Holland late in 1616. "The first of November," says one of the participants,

the President, John Peterson Koeven, sent for William Cornelison Schouten, our Master, and the Marchants, to come on land, where being come, he told them in the name of the East Indian Companie, that they must leave their ship and goods there, and deliver them into his hands.

. . . This was done upon Munday the first day of November, after our reckoning, but upon a Tuesday the second of November by our Countreimens reckoning there. The reason of the difference of time fell out thus—as we sayled westward from our own Countrey, and had with the Sun compassed the Globe of the World, we had one night, or Sun-setting less then they. . . . That weeke we lost the Tuesday, leaping from Munday to Wednesday, and so had one weeke of six days.

Some seventy years later, Dampier, in the

course of his circumnavigation, arrived in the East Indies. In his *Voyages* he makes the following observation on the question of date:

Here, and at all other places in the East Indies, we found them reckoning a day before us both natives and Europeans, the Europeans coming eastwards by the Cape of Good Hope, in a course contrary to the sun and us, wherever we met, they were a full day behind us in their accounts. So among the Indian Mahometans here, their Friday, the day of their Sultan's going to their mosques, was Thursday with us, though it were Friday with those who came eastwards from Europe. Yet at the Ladrone Islands, we found the Spaniards of Guam keeping the same computation with our selves: the reason of which I take to be that they settled that colony by a course westwards from Spain: the Spaniards first going to America, and thence to the Ladrone and Philippines.

These two extracts show how the establishment of a line of demarcation between one date and the next had become increasingly necessary during the 17th century. At first, the question was one that merely concerned those few who ventured to circumnavigate the world, but towards the end of the century merchants of all the principal seafaring nations found that, in the lands bordering the Pacific, there was a discrepancy of date depending on the direction from which the original colonizers had come to each particular territory.

The Portuguese, original discoverers of the Indies, had come thither by the Cape of Good Hope; and when their power began to decline, the Dutch, the French and the British came by the same route to wrest their empire from them. The Spaniards, on the other hand, had reached the East Indies across the Pacific by the course that Magellan had pioneered.

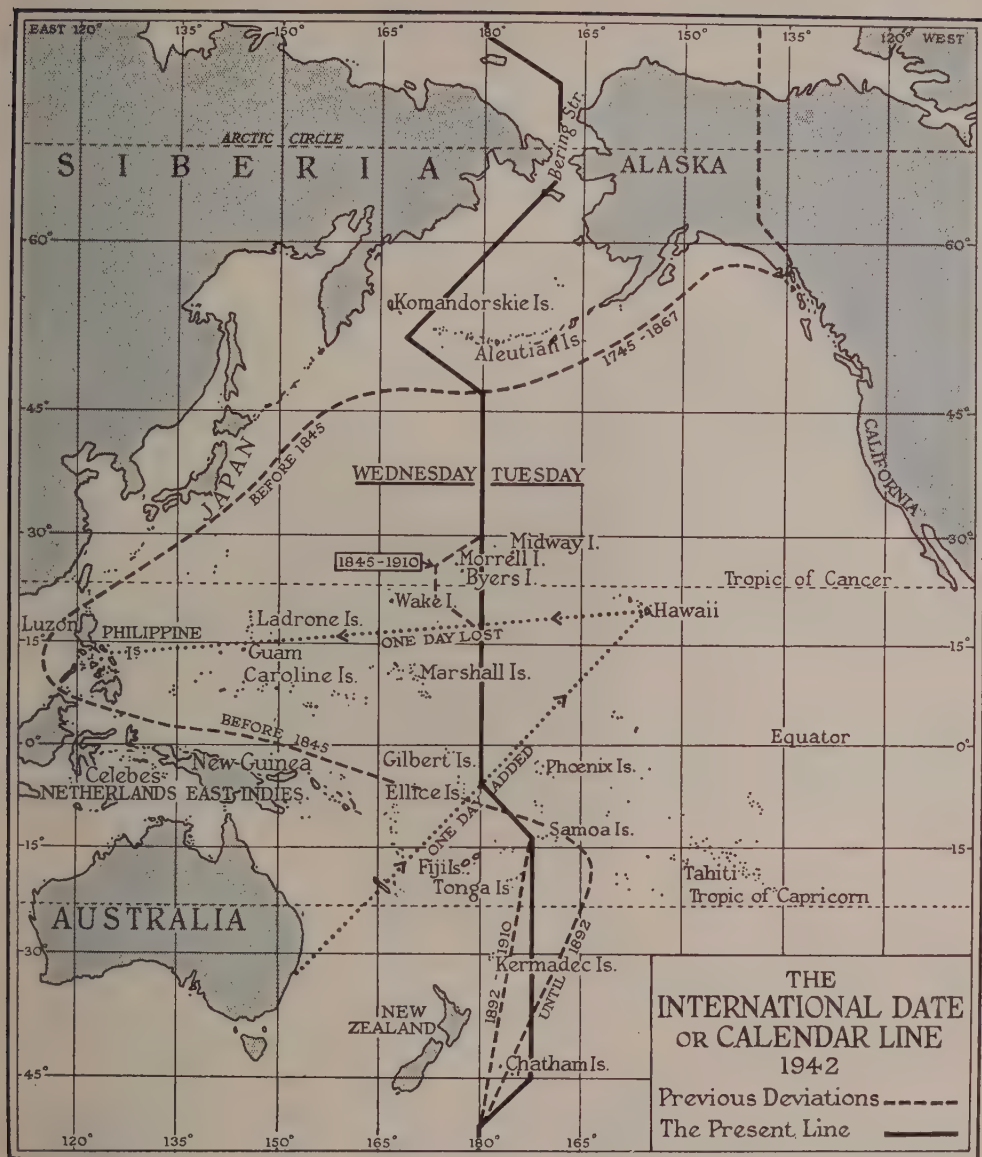
During the 18th century British aids to navigation came to be widely adopted by seafaring peoples. Among the factors leading to British supremacy in this sphere were the establishment of Greenwich Observatory in 1675, the invention of a reliable chronometer by John Harrison, and the publication of



National Maritime Museum

*The chronometer that won John Harrison the £20,000 offered by the British Government in 1714 for a reliable instrument to determine longitude*





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The problem solved by the Date Line may be stated in terms of modern time-zones and beam-wireless. When it is 10 A.M. on Wednesday Greenwich time, it is simultaneously 5 A.M. in New York, 11 P.M. in Honolulu, 9.30 P.M. in Auckland, 3.30 P.M. in Bombay and noon in Istanbul. A wireless beam sent out from England westwards at that time will be received in America on Wednesday morning and might be considered to reach Hawaii and New Zealand on the night of Tuesday-Wednesday. But a simultaneous east-bound beam would reach Asia on Wednesday afternoon and might equally well be regarded as reaching the Pacific on the night of Wednesday-Thursday, although the time of its arrival would be virtually the same as that of the west-bound beam. A boundary must obviously be established to separate the date observed in the western hemisphere from that of the eastern



British Museum

the first issue of the Nautical Almanac by the British Board of Longitude in 1765. The longitude of Greenwich came to be recognized more and more widely as the 'prime meridian' in spite of the rival claims of Ferro in the Canaries, Paris, Cadiz and even Pulkova in Russia, and it became convenient to regard the antipodal line, 180 degrees east or west of Greenwich, as the ideal line of demarcation between 'Asiatic date' and 'American date.' The 180th meridian had the additional advantage that it traversed the Pacific Ocean for most of its course, the only land it crossed being the easternmost tip of Asia and the as yet practically undiscovered continent of Antarctica.

But for a long time national habits stood in the way of the acceptance of this ideal date line. For instance, all through the 18th and well into the 19th century, the Spanish colony of Luzon in the Philippines kept the 'eastern' or 'American' date, while,

in the same longitude, Celebes, originally Portuguese and later Dutch, observed the date of the 'western' or 'Asiatic' side of the Pacific. Indeed, it was not until the Spaniards introduced a radical change into their shipping methods that practical considerations brought about uniformity of date in the two islands. Spanish vessels trading with the Philippines had been in the habit of using the south-east trades for the passage from South America to these Islands, while for the return voyage they coasted as far north as Japan in order to fall in with the south-westerly winds that would afford them a speedy passage to California, whence it was a comparatively simple matter to complete the circle to Peru or Panama. But about the close of the 18th century, Spanish merchants began sending ships direct from the mother country to the Philippines, and these vessels followed the Cape route. On arrival at their destination,





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(Above) A French map of the world based on the prime meridian of Ferro, one of the Canary Islands. This system was favoured by the French, since it placed Paris exactly 20° east of the prime meridian. (Opposite) A map originally published in St. Petersburg just after Bering's discoveries, on which longitude is also reckoned from Ferro. The Russians began to settle in Alaska in the middle of the 18th century, and it was over a hundred years before the territory was purchased by the United States

these mariners found themselves a whole day in advance of local time, corresponding as it did with American dating. Direct trade with Spain increased in volume as the years went by; and eventually, in order to put an end to the confusion, the Archbishop of Manila decreed that the day following December 30, 1844, should be January 1, 1845. The loss of December 31, 1844, brought the Philippines, the Ladrões and the Carolines into the sphere of Asiatic chronology, and removed a very inconvenient 'salient' in the course of the date line.

But to the north, the date line still diverged considerably from the 180th meridian. Inspired largely by Bering's discoveries, Russian fur-traders had crossed to America and settled in Alaska, some of them as early as 1745. In course of time Alaska became a Russian colony, in which the Orthodox Church, with its Julian calendar, was established, and the dates observed were the same

as those in St Petersburg and Moscow. The Russian American Company was formed, with comprehensive provisions in its charter relating to trading rights and missionary duties. 'Factories' were established along the North Pacific coast as far as California, and negotiations were actually undertaken for concessions in Hawaii. A ukase of 1821 barred settlement north of 51° to all but Russians, but its effect was soon nullified by concessions to American citizens. The Russian American Company failed to procure the renewal of its charter in 1863, and meanwhile a steady stream of Americans was flowing into the colony, causing distress of soul to the Orthodox priests, not only by their adherence to the Gregorian calendar, but (a far more practical difficulty) by insisting on observing their day of rest on the day that the Russians claimed to be Monday!

Eventually, in 1867, the territory was

bought by the United States from Russia for \$7,000,000, and the American date was introduced along with the Gregorian calendar and the Western faith. (Incidentally, the discovery of gold some thirty years later amply justified the purchase of Alaska—the returns on the original investment being estimated at some 2430 per cent.)

The last local change-over of date was based on commercial rather than on political considerations. In 1882 the King of Samoa, under pressure from the chief American business house trading in the islands, announced that in his kingdom the American system of dating would be substituted for the Australian, and (a master-stroke of diplomatic flattery) ordained that, in order to make the change, the Fourth of July should be celebrated twice in that year.

The date line had so far been determined by political considerations and local convenience: it had not yet received scientific approval or official international recognition. But in 1884 it seemed as if the date line was to be given authoritative status. For some years past various scientific bodies in Europe and America had been urging the official adoption of a 'prime meridian' and of a standardized system of timing throughout the world. The Congress of the United States therefore authorized President Arthur to convene an international conference "for the purpose of fixing a meridian proper to be employed as a common zero of longitude and also a standard of time reckoned throughout the globe." The conference recommended to the governments represented that the meridian of Greenwich should be adopted as the 'prime meridian' and that the universal day should begin at mean midnight on the prime meridian. But the delegates were not unanimous—France and Brazil abstained from voting on the first measure, and Great Britain and Russia were the only European countries to favour the second. In fact, although during the next decade the majority of countries adopted time-zones based on Greenwich time (with the notable exception of France which used Paris time till 1911), no government took any steps to define the line of demarcation between one date and the next.

In the last few decades the British Admiralty and the United States Hydrographic Office have from time to time issued a definition of the position of the date line. In 1910

two changes were made in its course, one of which did not necessitate the adjustment of a single calendar in any Pacific home. For some time the date line had been carefully drawn so as to pass west of two islands, Morrell and Byers, which were supposed to lie at the western extremity of the Hawaiian chain. It was eventually found that these islands did not, in fact, exist: so it was possible to straighten the date line! The other alteration of 1910 involved the closer definition of the course of the date line south of the Equator, between Samoa and Chatham Islands.

Professor George Davidson, of the University of California, investigated the whole problem in 1899, and came to this conclusion: "There is no International Date Line. The theoretical line is 180° from Greenwich, but the line actually used is the result of agreement among the commercial steamships of the principal maritime countries." This is still the position: but, although there is no international agreement on the subject, the definition given by the British Admiralty in the List of Lights is accepted by all who do business in the Pacific Ocean:

The Date or Calendar Line is a modification of the line of the 180th meridian, and is drawn so as to include islands of any one group, etc., on the same side of the line. The line is indicated by joining the following eight points:

60° S	180°
51½° S	180°
45½° S	172½° W
15½° S	172½° W
5° S	180°
48° N	180°
52½° N	170° E
65° N	169° W;

then through the centre of Behring Strait, joining the line of 180° at 70° N.

The divergences from the 180th meridian provide for 'Asiatic date' in the eastern tip of Siberia and 'American date' in the Aleutians; while Fiji, Tonga, the Kermadecs and Chatham Islands, although east of that meridian, are, for political and commercial reasons, allotted the same dating as Australia and New Zealand. To use the words of the Hydrographer to the Admiralty, "The term 'International Date Line' does not imply international agreement, but is merely a method of expressing graphically and in convenient form the differences of date which exist among some of the island groups of the Pacific."



# Time in the Making

Notes and Photographs by PAUL POPPER

SITTING at our radio set at 8.59 P.M. we shall hear in a minute a familiar voice: "This is the B.B.C. Home Service, here is the News!"—an announcement anxiously awaited by millions of listeners in these times. The voice is preceded by the equally familiar sound: "Pip, pip . . ." At the sixth and last 'pip' it is exactly 9 P.M.

It is at this moment that listeners everywhere adjust their clocks and watches, for the B.B.C. signal serves to maintain the rhythm of the nation's life. Also, in providing him with Greenwich time, it enables the sailor at sea and the airman in the skies to locate his position. And how, we may ask, does this come about?

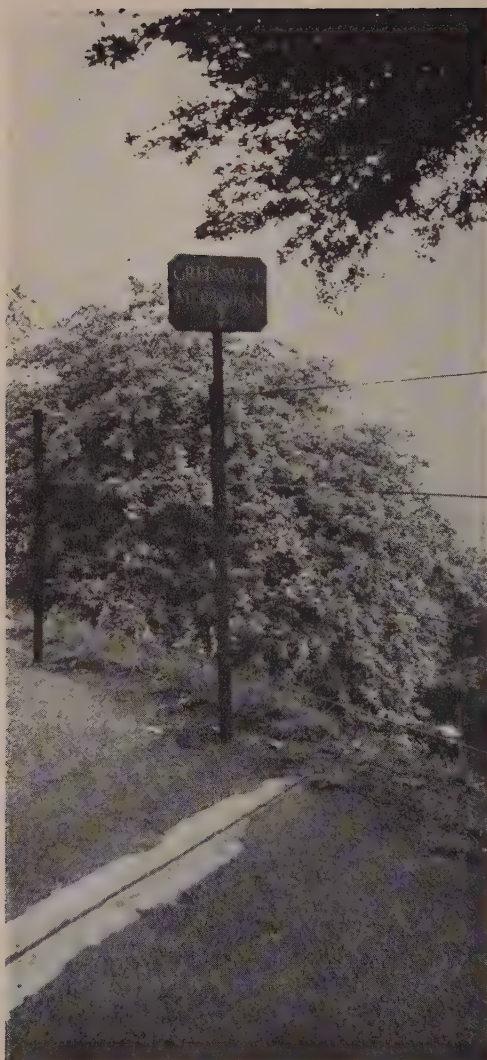
In the grounds of the Royal Observatory at Greenwich is a small hut, faintly visible in the black-out of a starlit night. As its roof slides

open, the outline of a small telescope becomes visible, and an astronomer is soon seen peering through it at the stars. For it is from the stars in the sky that we derive the time which regulates our civil and economic life. Our master-clock is the earth itself, and it is the rotation of the earth around its axis that is reflected in the apparent motion of the stars.

Every year that passes witnesses an improvement in the art of clock-making, but so far it has not been possible to construct a clock so perfect in performance as to check the uniformity of the earth's rotation. It has always been assumed that the speed of rotation of the earth does not vary, an assumption that has been justified by the results of observations made upon the planets and the moon. These observations, combined with theoretical

*The Royal Observatory at Greenwich looking towards the main entrance. The big dome on the right houses the 28" refractor and on the left is the small hut from which the astronomer peers at the stars and, by means of the transit instrument, determines the time*





*This stone slip across the footpath in the park outside the Royal Observatory marks the Greenwich Meridian. It is from this meridian of zero longitude that the longitude of every other place is measured*

considerations, indicate that any change in the rotation period of the earth has not exceeded  $\frac{1}{100}$ th of a second during the last century. It is logical, therefore, to accept this period as a unit of time.

To establish it, a suitable point in space must be selected with reference to which the rotation can be observed. The point chosen

is referred to as the first point of Aries, or the vernal equinox. At any point on the earth, the sidereal day (which differs from the ordinary civil day) is taken to begin at the instant that this point appears to cross the meridian, *i.e.* the vertical plane passing through the north and south points of the horizon.

The same point would again appear to 'transmit' or cross the meridian when the earth has completed a rotation of  $360^\circ$ . At any other specific instant the earth will have turned through a correspondingly definite angle, which might be taken as a measure of the time elapsed. Conversely, the time taken for the earth to turn through  $360^\circ$  might be represented as consisting of 24 sub-units of time, in which case one sub-unit would represent  $15^\circ$  of rotation. This sub-unit of time is known as the sidereal hour, and is again divided into 60 sidereal seconds.

The advantages to the astronomer of this system of time are evident. But in civil life such a system would be highly inconvenient, for it takes no account of the position of the sun in the sky. Since the sun has an apparent eastward motion relative to the stars, due in reality to the progress of the earth in its orbit, it becomes necessary to modify the length of the sidereal day so that the sun will always appear near the meridian at midday. This adjustment causes the civil day to exceed the sidereal day in length by about four minutes, 366 sidereal days forming an ordinary year of 365 civil days. (Civil time is often referred to as Mean Solar Time.)

Obviously these 'times' are local, since the sun or a star cannot at any instant be on the meridian at two places which are not themselves situated on the same meridian. The difference between the local times at two such places is clearly equal to the difference in their longitudes. Thus, for instance, at a place  $15^\circ$  east of Greenwich, local noon will occur exactly one hour before Greenwich noon.

This variation of local time would be most embarrassing in face of the problems of modern transport and communications. A system of standard zone times has therefore been introduced by most countries. Starting from the zero meridian of Greenwich the whole world is divided by 24 standard meridians,  $15^\circ$  apart, into 24 time zones. Within the boundaries of each zone the adopted time

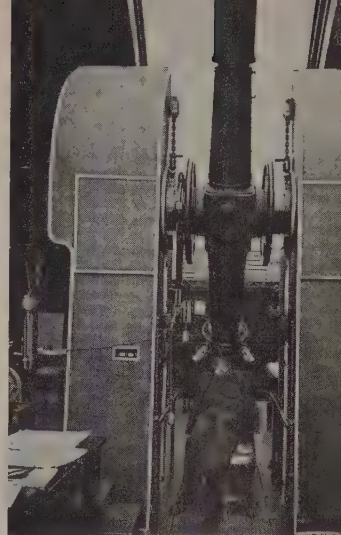




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5



6

1. Small transit instrument whereby star transits are observed from which time is derived. 2. The line passing through the centre of this instrument represents the 'Greenwich Meridian'. The roof has just been opened and the telescope prepared for observation. 3. Observer at work with the 'reversible Transit Circle'. 4. Records of clocks and radio time signals are made on tape chronographs. 5. Checking instrumental errors. 6. When the star under observation enters the telescopic field it is bisected by a vertical wire which, driven by an electrometer, follows the passage of the star across the meridian. This passage is automatically recorded on the tape of the chronograph

is uniform while it differs by one hour exactly from one zone to the next.

Returning to the Observatory we see then that the astronomer at the transit instrument, by maintaining a rigorous system of time-

keeping, performs one of the fundamental tasks which connect science and practical life. This alone would seem to justify the existence of the apparently useless astronomer.

Before it is possible to establish a time ser-



*The apparent movement of the stars is shown in this photograph which was obtained by an exposure of two hours. A camera was pointed in the general direction of the North Star which appears as the bright segment near the centre. All stars recorded one-twelfth of their apparent daily motions round their celestial North Pole. The diagonal line is the path of a shooting star which just happened to cross the sky*

vice it is necessary to have a knowledge of the exact positions of a number of stars. The position of a star in the sky is fixed by the values of its 'right ascension' and 'declination'. These 'co-ordinates' on the celestial sphere correspond to the longitude and latitude used in defining a position on the surface of the earth. The right ascension is generally reckoned in hours and minutes (24 hours being equal to  $360^\circ$ ), starting from zero at the equinox, or first point of Aries. If the right ascension of a star is known, then an observer may determine the error of a clock by noting the time at which the star crosses the meridian. Conversely, if he knew the error of the clock he could deduce the right ascension of the star.

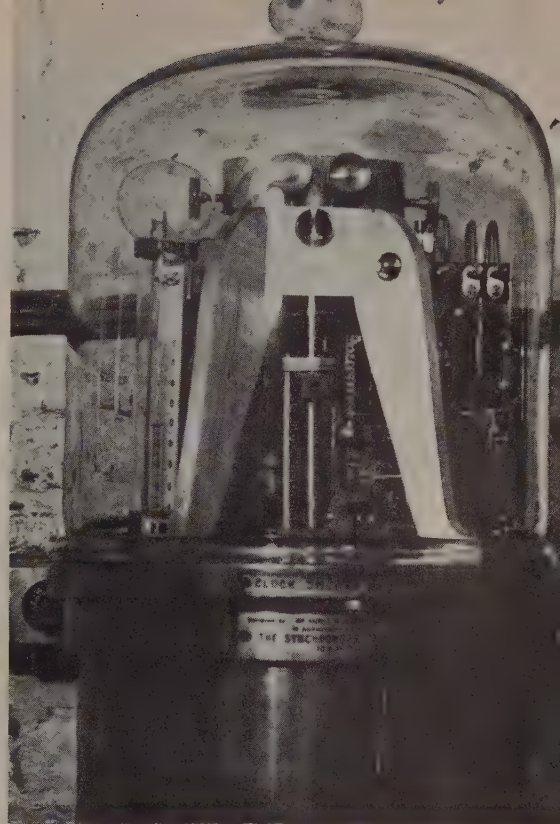
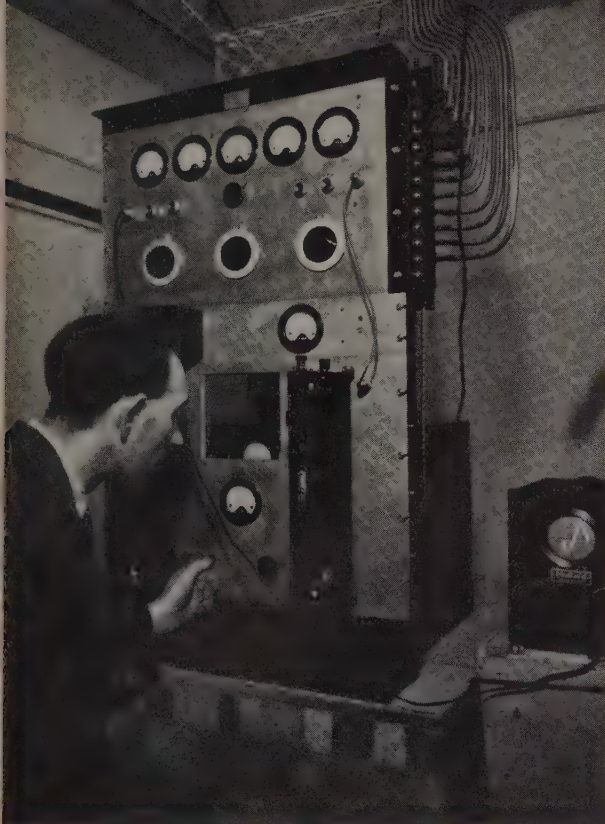
This observation is made with the transit

instrument which is merely a telescope mounted upon a horizontal axis and capable of being rotated so as to trace out a vertical plane through the north and south points of the horizon. Within the tube of the telescope are stretched a number of spider threads which appear, when seen through the eyepiece, as black vertical lines crossing the field of view. One of these 'wires' is capable of being moved across the field in a horizontal direction by means of a micrometer operated by the fingers. As it passes certain points in the field electrical contacts are made and signals are transmitted to a chronograph, or moving tape, on which are also being recorded the beats of the clock. To determine the clock time of transit of a star the observer brings the 'moving wire' to bear upon the star image, which appears in consequence of the earth's rotation to be moving across the field. By maintaining a bisection of the image with the wire

he automatically transmits signals to the chronograph. These signals are subsequently compared with those representing the clock beats, and after certain instrumental corrections have been applied the error of the clock is finally deduced.

On every clear night the clocks at Greenwich are checked by the stars in this way. In the clock cellars of the Observatory are housed some of the most accurate pendulum clocks ever constructed. They are mounted in airtight cases, from which most of the air is removed, and protected from changes of temperature, which would affect the period of swing of the pendulums. The rates of each clock are carefully recorded; and these records constitute life stories of their performance.





(Left) The new quartz crystal clock which supersedes other types of clock and is introduced into the Time Service of the Royal Observatory, Greenwich. Here a vibrating quartz crystal, the oscillations of which are maintained electrically, replaces the ordinary pendulum swinging under the influence of gravity. (Right) The 'master' pendulum of one of the Shortt clocks in the Royal Observatory, which displays amazing accuracy. This controls another unit referred to as the 'slave', the dials of which indicate the time kept by the 'master'

From these cellars the time signal goes out into the world through the most intricate mechanism, yet the errors accumulated by transit observation, clocks, relays, transmitters, receivers, down to the listener at the radio set do not exceed a few hundredths of a second.

The larger Meridian Circles work on the same principle as the simple transit instrument described. The function of the Meridian Circle is to determine the positions, or co-ordinates of the heavenly bodies, among which are the 'clock stars' used in making time observations. We have seen that if we know the error of a clock, then the observed time of the meridian passage of a star gives us

immediately its 'right ascension'. In order that it may be used to derive the 'declination', the meridian instrument is fitted with a large graduated circle which revolves with the telescope in the vertical plane, like the altitude circle of a surveyor's theodolite. When the telescope is directed towards a celestial body as it crosses the meridian, a reading of the circle gives its declination, or in the case of some instruments, the 'polar distance'.

It is thus that astronomers working at their telescopes on lonely nights have laid the foundations of positional astronomy, and thence built up a system of time-keeping which regulates our whole civil and economic progress.



Basil Collier

# In the Lost Valleys of Andorra

by BASIL COLLIER

*Of the three or four miniature States still surviving in Europe, the Pyrenean republic of Andorra is the most primitive; until very recent times no wheeled traffic had penetrated there. Mr Basil Collier, already known to our readers through his article on the neighbouring province of the Roussillon which we published in December 1940, is the author of an excellent book on Catalan France*

IN the spring of 1938 I was staying at the Mediterranean end of the Pyrenees, close to the frontier between France and Spain. A few days before Easter I left the closely cultivated strip of coastal plain for the mountains. After climbing one valley and crossing a bare, bleak saddle to reach the highland plain of the Cerdagne, the railway began to ascend a second valley, stonier, more silent and more austere than anything I had seen yet. That afternoon the train deposited me at the highest normal-track railway station in Europe.

At this point the valley turned through a right angle. Far away to the right the stream which watered it had its source among the high, still lakes and silent peaks of the Carlitte. A mile or so upstream was the village of Porté, neat and compact, a huddle of square houses with slate roofs encrusted with moss and lichen. In front the way was blocked by a

high wall of rock, pierced by the tunnel of the trans-Pyrenean railway, and triumphantly surmounted by the treaty road of Puymorens. There was snow on the mountains; here and there it came down to the level of the stream. Where the snow was melting, gentian and anemone and crocus pushed their way up through the tough brown grass. To the left the sky was filled with the massive pyramid of the Pic de Font-Frède. Somewhere beyond that pyramid lay the legendary valleys of Andorra.

I don't know what first charged my youthful imagination with the legend of Andorra: the lost valley, the hidden republic which from the Middle Ages had preserved its independence between two powerful neighbours, and into which (when I first heard of it) no wheeled vehicle had ever penetrated. Ever since, the idea of one day visiting Andorra had





Basil Collier

*Long regarded as one of the loneliest villages in Europe, and still lonely despite the snow-plough and the modern car, Porté stands at an angle of the wild valley of the Carol, close to the Andorran frontier. The sight of it has meant life and warmth to many a traveller who has made the difficult winter journey over the pass of Puymorens*

lingered in the background of my mind. So when I was planning to stay in the eastern Pyrenees I thought of it again, but only as a faint and pleasing possibility, for I expected to return to England in the early summer; and although to visit Andorra in the summer months was now the simplest thing in the world, I knew that up to May or even June the frontier was still virtually impassable. I made inquiries in Porté, and learned that in winter Andorra's only links with the outer world were the soldiers of a regiment of *chasseurs* who collected and delivered the Andorran mails on skis from Porté, and an alleged caterpillar tractor belonging to a skiing club, which was supposed to be available for taking members'



Stanford, London

baggage to a refuge just across the frontier.

I also learned that Andorra was not really a republic, but a co-principality nominally under the joint rule of the Spanish Bishop of Urgel and the President of the French Republic (as legal heir of the Counts of Foix), but in practice governed under an archaic system of custom-law by an elected body called the Council General of Andorra and a number of parish councils.

However, it was spring, as the full-leaved vines I had left behind me in the valley testified. Even at this height the close-hid gentian and the hot sunshine of fine days confirmed it, though the sprawling fingers of the snows and the smoking breath of men and oxen on the evening air denied it.

One day towards the end of April, after lunching in the open air on the pass of Puymorens, I took the road which leads down on the far side of the pass to Ax-les-Thermes and ultimately to Toulouse. A mile or two down this road I came on a road sign, with an arrow pointing straight up in the air and another pointing to the left. Beside the first arrow

was written 'Toulouse', and beside the second 'Andorre'. So the legendary Andorra really existed—or at least a Government department believed that it existed. I went a little way along the left-hand road before the lateness of the hour forced me to turn back. It seemed to have been cleared of snow a few days before; there was no reason to suppose that it was not clear the whole way to the frontier.

Next morning a friend and I set out very early from Porté to walk into Andorra. Into Andorra, because the objective that would satisfy us was not the frontier but the mountain ridge that lay beyond it, crowned by the 8000-feet-high port or col of Envalira. We were lucky in getting a lift in a skiers' bus as far as Puymorens. By ten o'clock we were far beyond the point we had reached on the previous afternoon, consuming a second breakfast of hard-boiled eggs and wine by the roadside.

The frontier, which we reached an hour later, was unimpressive—a big stone customs-house on the French side, a little wooden one on the Andorran side, two or three wooden refuges for skiers. Outside one of them a girl with very fair hair and skin the colour of brown boot-polish was talking to a group of youths in skiing costume. We bought some more wine and went on.

So far our journey to Andorra had cost us nothing but an early awakening and a stiff walk. But if it had begun to seem that we were paying too low a price for our experience, the next few miles disillusioned us. To climb the 1500 feet or so which separated us from the Envalira took us two hours of hard slogging. The road had been cleared by a snow-plough a day or two earlier, leaving a surface of oozing mud and slush which made unpleasant going. The cleared snow was piled up on either side of the road in two banks which here and there towered above our heads; and all the time a slow

*Framed in cherry blossom, a Catalan fishes for brook trout in one of the many rivulets fed by the melting snows of the Pyrenees*

*Basil Collier*





trickle was going on from these banks to feed the stream of icy slush in which we slithered.

We reached the top at last and, finding a patch clear of snow, sat down to eat our lunch with our heads in the clouds and our eyes on the mountains of Andorá. Beyond the pass the road wound down to the still elusive valleys where, for all we knew, men walked whose heads grew beneath their shoulders. Two or three days later, the inexorable appeal of self-made plans removed us to the other end of the Cerdagne.

But only a week later I returned. My second visit to Andorra was made on May 1 from Mont-Louis, a cold fortified town where I was spending a few days. A man with a car had offered to take me in it across the Cerdagne, up the valley of Carol, across the Puymorens and into Andorra; it was to be a week-end trip. I saw him the day before and arranged to start at eight o'clock. All that night it snowed hard, and in the morning it looked as if the trip would have to be postponed. But at half-past ten my friend turned up, explaining that he had had to dig a way

from his garage to the road. We piled into the car and started off in brilliant sunshine across the gleaming snow. The air was so cold that a hand projecting beyond the wind-screen was numb in a few moments.

Considered as a hazardous adventure, the journey to Andorra was a failure. Even on the Envalira the newly fallen snow made a much better surface than the vile slush of a week before, and we got over the pass without difficulty. The road descended steeply through a barren landscape, veiled with snow; we passed a few stone hovels blackened by the weather. In time for a late lunch we reached the first Andorran village of Soldeu, where the inn provided us with a tolerable meal. But Soldeu is an outpost of Andorra; it was not until we had passed the lonely wayside Church of Sant Joan de Casellas and the village of Canillo and reached the little saddle above Encamp that we felt we had come to the heart and core of the lost valleys. For the rest of the way the rough road ran between high, rugged mountain walls which shelved down to grassy slopes where wild daffodils were blooming.

*The road from France and the pass of Envalira crosses a little saddle and gives the traveller his first sight of the main Andorran valley, with the village of Encamp in the foreground*

Basil Collier





*E.N.A.*

The capital of Andorra is the village called Andorra la Vieja; but, helped by the summer tourist-traffic brought by the completion of the road across the Envalira, the little spa of Escaldes has outgrown it. The term spa may suggest a mondaine elegance which is entirely foreign to Andorra; Escaldes is a primitive mountain village of roughly-built stone houses and mud streets. Yet there was a time when it nearly achieved this kind of elegance, for in the last century an inter-

national syndicate proposed to establish it as a cosmopolitan gambling resort, unhampered by anti-gaming laws, on the lines of an inland Monte Carlo. If successful, this scheme would have brought wealth to everybody in the country; but the sturdy Andorrans made it the issue of the greatest political crisis that has occurred in their country, and succeeded in quashing it, although it is said to have been strongly supported by the Bishop of Urgel and the priesthood. The prompt action of the



(Opposite) Most Andorran churches have square towers pierced by the tall windows found, too, in the unusual cylindrical tower of this church among the tobacco fields at the Spanish end of the main valley. The church lies close to the village of Sant Julià de Loria, the principal trading centre of the co-principality and a former capital. Sant Julià de Loria has several shops and is architecturally the best of the Andorran villages

(Right) The most impressive building in Andorra, the Casa dels Valls, or House of the Valleys, is Parliament House, Hall of Justice, prison, banqueting-hall, dormitory for assembled councillors, and shrine of Andorran national consciousness. At a time of political crisis the populace is said to have locked the councillors in the building and thus compelled their assent to an extension of the franchise.



E. N. A.

French Government in moving a battalion of infantry to the Andorran frontier when internal disorder threatened played an important part in this result.

However, Escaldes has two or three inns which can reasonably be called hotels. They were not expecting guests at this time of the year; but we found possible quarters in one whose proprietor promised to cook us a Valencian rice dish for our dinner. We spent the rest of the afternoon inspecting the sights.

At Andorra la Vieja a guide produced a key of medieval proportions and unlocked the Casa dels Valls—the meeting-place of the Council General and seat of all the national institutions, from the prison to the councillors' banqueting-hall and dormitory. We admired the thickness of the walls, the row of pegs on which the councillors hung their robes of office, the signed photograph of President Lebrun. We visited the starkly primitive Andorran villages, threading our way through



*Black Star*

*Through centuries of close intermarriage, the Andorrans have developed a characteristic physical type, of which this dour, stocky figure provides a good example*

flocks of hardy Andorran sheep. We looked at endless vistas of grey hillsides which sloped up to craggy, snowbound heights, and down to the hanging fields in which the Andorrans grow their scanty crops of rye and vegetables and their hasty summer crop of coarse tobacco.

Towards evening it began to rain, and thick grey clouds loitered over the valley-heads, obscuring the sombre and dramatic background of the Andorran scene. We bought postcards and stuck Andorran stamps on them. We bought unsmokable Andorran cigars. Back in Escaldes, at Andorra's largest café, we drank an apéritif and watched some Andorrans (of whom there are in all about five thousand) in their hours of leisure. We found them talkative but dour, not unduly prepossessing, and to our eyes almost comically alike in features and expression.

In the morning there was fresh snow on the

heights above Escaldes. We made an early start up the valley towards Encamp. At Canillo the snow glittered in the sun and we met a string of ponies, beautiful in the morning light. By midday the hot sun was melting the thin new layer of snow on the Envalira, causing a trickle which crept down the shade and froze again into a surface of extreme smoothness and toughness. Just short of the summit the wheels of the car spun and we stopped dead. We spent an hour hauling and shoving and manipulating sacks. At the end of that time the one lorry of the day which happened to be going over the pass brought a crew of brawny helpers. Less than half an hour later we had passed the frontier and were back on French soil.

I still don't know whether Andorra fulfilled or disappointed my expectations, for I don't know quite what I expected Andorra to be like. I do know that I should like to go back there.



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PRINTED IN GREAT BRITAIN

BY R. & R. CLARK, LIMITED, EDINBURGH





